Internal Use Only

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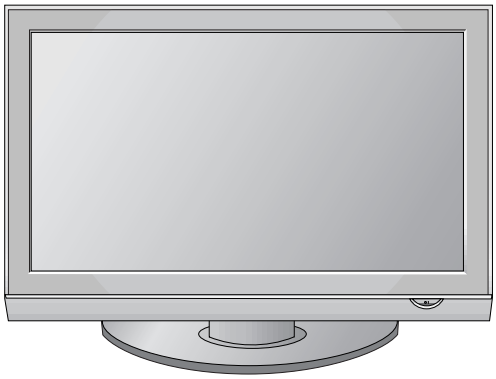
PLASMA TV
SERVICE MANUAL

CHASSIS : PU84C

MODEL : 50PG30 50PG30F-UA

CAUTION
BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and Replacement Parts List.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

General Guidance

An Isolation Transformer should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitary that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this monitor is blown, replace it with the same specified type.

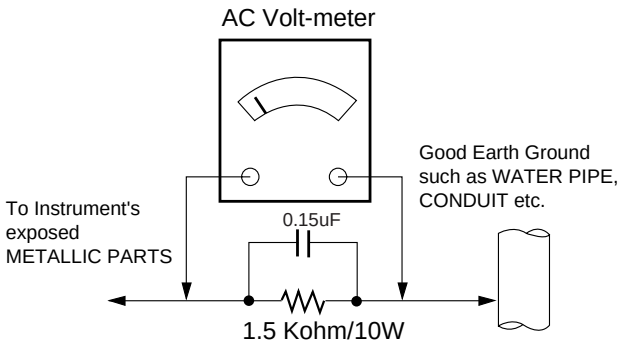
When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Leakage Current Cold Check(Antenna Cold Check)
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on positioin, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)
Plug the AC cord directly into the AC outlet.
Do not use a line Isolation Transformer during this check.
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each esposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.
In case any measurement is out of the limits sepcified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



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SPECIFICATIONS

MODELS		50PG10 (50PG10-UA) NS-50PDP-09 (50PG1DD-UA)	50PG20 (50PG20-UA) 50PG20C (50PG20C-UA)
Dimensions (Width x Height x Depth)	With stand	48.2 x 33.4 x 14.3 inches 1224.7 x 849.0 x 364.0 mm	48.2 x 33.4 x 14.3 inches 1224.7 x 849.0 x 364.0 mm
	Without stand	48.2 x 31.1 x 3.2 inches 1224.7 x 790.0 x 83.6 mm	48.2 x 31.1 x 3.3 inches 1224.7 x 790.0 x 86.0 mm
Weight	With stand Without stand	91.4 pounds / 41.5 kg 83.9 pounds / 38.1 kg	90.8 pounds / 41.2 kg 83.3 pounds / 37.8 kg
MODELS		50PG30 (50PG30F-UA)	60PG30 (60PG30F-UA)
Dimensions (Width x Height x Depth)	With stand	48.5 x 33.4 x 14.3 inches 1232.0 x 850.0 x 363.6 mm	57.7 x 39.7 x 16.2 inches 1468.0 x 1009.1 x 413.9 mm
	Without stand	48.5 x 31.2 x 3.3 inches 1232.0 x 793.0 x 84.0 mm	57.7 x 37.3 x 3.4 inches 1468.0 x 949.5 x 88.5 mm
Weight	With stand Without stand	93.2 pounds / 42.3 kg 84.4 pounds / 38.3 kg	177.6 pounds / 80.6 kg 160.0 pounds / 72.6 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm	
Environment condition	Operating Temperature Operating Humidity	32 ~ 104¡F (0 ~ 40¡C) Less than 80%	
	Storage Temperature Storage Humidity	-4 ~ 140¡F (-20 ~ 60¡C) Less than 85%	

n The specifications shown above may be changed without prior notice for quality improvement.

ADJUSTMENT INSTRUCTIONS

1. Application Range

This spec. sheet is applied to all of the PU84A, PU84C chassis.

2. Specification

(1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
(2) Adjustment must be done in the correct order.
(3) The adjustment must be performed in the circumstance of 25±5℃C of temperature and 65±10% of relative humidity if there is no specific designation.
(4) The input voltage of the receiver must keep 100~240V, 50/60Hz.
Caution : 42 inch must keep 100 ~ 120V, 50/60Hz.

(5) The receiver must be operated for about 5 minutes prior to the adjustment.

o After RGB Full White in HEAT-RUN Mode, the receiver must be operated prior to the adjustment.
o Enter into HEAT-RUN MODE
(1) Press the POWER ON KEY on R/C for adjustment.
(2) Press the ADJ KEY on R/C and enter EZ ADJUST
Select “4. White Pattern” by using D/E(CH +/-) and select “White” by using F/G(VOL +/-)

- Set is activated HEAT run without signal generator in this mode.
- Single color pattern (RED / BLUE / GREEN) of HEAT RUN MODE uses to check panel.

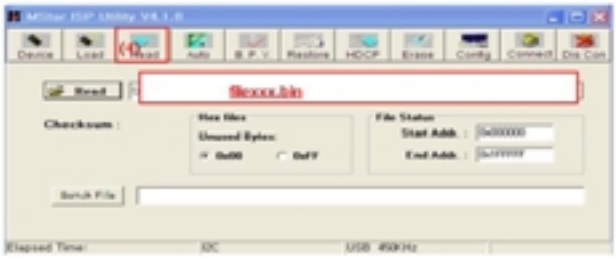
Caution: If you turn on a still screen more than 20 minutes (Especially digital pattern, cross hatch pattern), an after image may be occur in the black level part of the screen.

Caution: Set up “RF mode(noise)” after PCB assembly adjustment.

3. Download

(1) Execute ISP program “Mstar ISP Utility” and then click “Config” tab.
(2) Set as below, and then click “Auto Detect” and check “OK” message If display “Error”, Check connect computer, jig, and set.
(3) Click “Connect” tab. If display “Can’t” , Check connect computer, jig, and set.

(4) Click “Read” tab, and then load download file(XXXX.bin) by clicking “Read”



(5) Click “Auto” tab and set as below
(6) Click “Run”.
(7) After downloading, check “OK” message.

4. ADC Process

4-1. PC Input ADC

(1) Auto RGB Gain/Offset Adjustment

1) Convert to PC in Input-source
I2C COMMAND: 0xF4 (SELECT_INPUT) 0x00 0x60 (RGB)
cf. 0x10(TV), 0x20(AV), 0x40(COMPONENT), 0x60(RGB), 0x90(HDMI)

2) Signal equipment displays
Output Voltage : 700 mVp-p
Impress Resolution XGA (1024 x 768 @ 60Hz)
Model : 60 in Pattern Generator
Pattern : 29 in Pattern Generator (MSPG-925 SERISE)

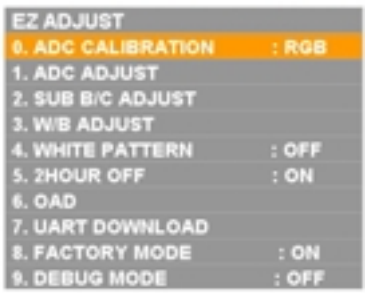
[gray pattern that left & right is black and center is white signal (Refer below picture)].

3) Adjust by commanding AUTO_COLOR_ADJUST(0xF1) 0x00 0x02 instruction.

(2) Confirmation

1) We confirm whether “0xB6(RGB)” address of EEPROM “0xA2” is “0xAA” or not.
2) If “0xB6(RGB)” address of EEPROM “0xB2” isn’t “0xAA”, we adjust once more
3) We can confirm the ADC values from “0xB0~0xB5(RGB)” addresses in a page “0xA2”

[Manual ADC process using Service Remocon. After enter Service Mode by pushing “ADJ” key, execute “ADC Adjust” by pushing “G” key at “0. ADC CALIBRATION “.



4-2. COMPONENT Input ADC

(1) Component Gain/Offset Adjustment

1) Convert to Component in Input-source
I2C COMMAND : 0xF4 (SELECT_INPUT) 0x00 0x40 (COMPONENT)
cf. 0x10(TV), 0x20(AV), 0x40(COMPONENT), 0x60(RGB), 0x90(HDMI)

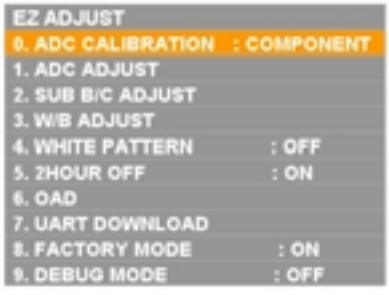
2) Signal equipment displays
Impress Resolution 480i
MODEL : 209 in Pattern Generator(480i Mode)
PATTERN : 8 in Pattern Generator(MSPG-925 SERISE)

3) Adjust by commanding AUTO_COLOR_ADJUST(0xF1) 0x00 0x02 instruction

4) Signal equipment displays
Impress Resolution 1080i
MODEL : 223 in Pattern Generator(1080i Mode)
PATTERN : 8 in Pattern Generator(MSPG-925 SERISE)

5) Adjust by commanding AUTO_COLOR_ADJUST(0xF1) 0x00 0x02 instruction

[Manual ADC process using Service Remocon. After enter Service Mode by pushing “ADJ” key, execute “ADC Adjust” by pushing “G” key at “0. ADC CALIBRATION”.



4-3. Confirmation

(1) We confirm whether “0xBF(480i)/0xC8(1080i)” address of EEPROM “0xA2” is “0xAA” or not.
(2) If “0xBF(480i)/0xC8(1080i)” address of EEPROM “0xA2” isn’t “0xAA”, we adjust once more
(3) We can confirm the ADC values from “0xB9 ~ 0xBE(480i) / 0xC2 ~ (1080i)” addresses in a page “0xA2”

[Manual ADC Confirmation using Service Remocon. After enter Service Mode by pushing “INSTART” key.

Caution: Each PCB assembly must be checked by check JIG set. (Because power PCB Assembly damages to PDP Module, especially be careful)

Caution: Set up “RF mode(noise)” before voltage adjustment.

5. POWER PCB Ass’y Voltage Adjustment (Va, Vs voltage Adjustment)

5-1. Test Equipment: D.M.M 1EA

5-2. Connection Diagram for Measuring

Refer to Fig.1, Fig 2, Fig 3

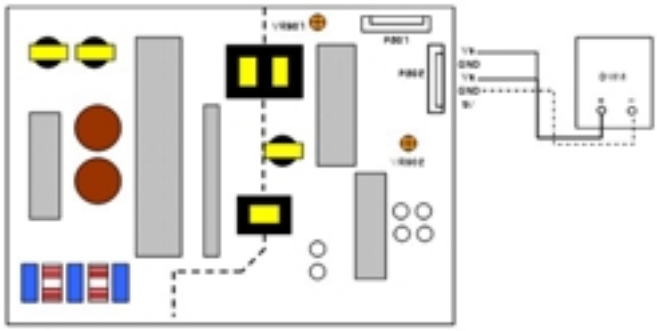
5-3. Adjustment Method

(1) 50” Va Adjustment (refer fig.1)

1) After receiving 100% Full White Pattern, HEAT RUN.
2) Connect + terminal of D.M.M. to Va pin of P802, connect-terminal to GND pin of P802.
3) After turning VR902,voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top (deviation; ±0.5V)

(2) 50” Vs Adjustment (refer fig.1)

1) Connect + terminal of D.M.M. to Vs pin of P802, connect -terminal to GND pin of P802.
2) After turning VR901, voltage of D.M.M adjustment as same as Vs voltage which on label of panel right/top (deviation ; ±0.5V)



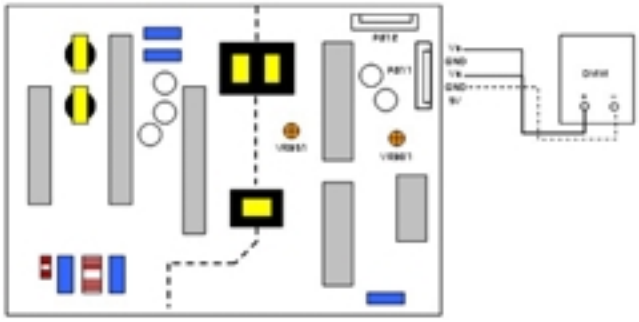
(Fig. 1) 50inch Power PCB Assy Voltage Adjustment

(3) 42” Va Adjustment (refer fig.2)

1) After receiving 100% Full White Pattern, HEAT RUN.
2) Connect + terminal of D.M.M. to Va pin of P811, connect -terminal to GND pin of P811.
3) After turning VR901,voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top (deviation; ±0.5V)

(4) 42” Vs Adjustment (refer fig.2)

1) Connect + terminal of D. M..M. to Vs pin of P811, connect -terminal to GND pin of P811.
2) After turning VR951, voltage of D.M.M adjustment as same as Vs voltage which on label of panel right/top (deviation ; ±0.5V)



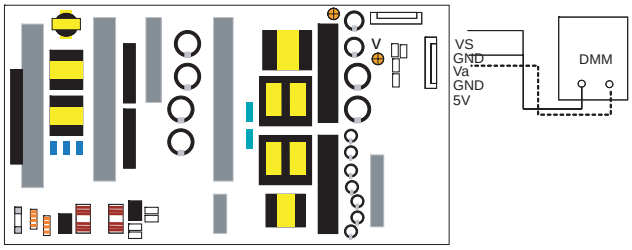
(Fig. 2) 42inch Power PCB Assy Voltage Adjustment

(5) 60” Va Adjustment (refer fig.3)

1) After receiving 100% Full White Pattern, HEAT RUN.
2) Connect + terminal of D.M.M. to Va pin of P11, connect -terminal to GND pin of P11.
3) After turning VR901,voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top (deviation; ±0.5V)

(6) 60” Vs Adjustment (refer fig.3)

1) Connect + terminal of D. M..M. to Vs pin of P11, connect -terminal to GND pin of P11.
2) After turning VR951, voltage of D.M.M adjustment as same as Vs voltage which on label of panel right/top (deviation ; ±0.5V)



(Fig. 3) 60inch Power PCB Assy Voltage Adjustment

6. DDC EDID Write (MODEL NAME: LG TV)

Caution: Press the POWER ON KEY on R/C before EDID download.

EDID download is processed automatically through RS-232C
PC(for communication through RS-232C), UART baud rate: 115200 bps

o EDID Download Protocol (RS-232C)

No	Item	CMD 1	CMD 2	Data 0		Remark
EDID Download	EDID Download	a	a	1	0 ~ 4,9	All=0 ; HDMI(1,2,3,4)=1,2,3,4 ; RGB=9
Check Status	Check EDID Status	a	a	2	0 ~ 4,9	All=0 ; HDMI(1,2,3,4)=1,2,3,4 ; RGB=9
Data Update	Product Date	a	a	3	1	Production year/month Data 1: Year, Data 2: Month
Mode Control	Download Mode In	a	a	0	0	Transmitting adjustment mode In instruction, operate adjustment command.
	Download Mode Out	a	a	9	0	
	Adjustment Confirmation	a	a	9	9	EDID data existence check in SET assembly

o HDMI-1 EDID DATA

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	01	00	01	01	01	01
10	00	11	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	AF	CF	00	31	40	45	40	61	40	81	80	A9	40
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	02	3A	80	18	71	38	2D	40
50	58	2C	45	00	C4	8E	21	00	00	1E	00	00	00	FD	00	30
60	58	1F	64	11	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	4C	47	20	54	56	0A	20	20	20	20	20	20	20	01	8A

o HDMI-2 EDID DATA

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	01	00	01	01	01	01
10	00	11	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	AF	CF	00	31	40	45	40	61	40	81	80	A9	40
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	02	3A	80	18	71	38	2D	40
50	58	2C	45	00	C4	8E	21	00	00	1E	00	00	00	FD	00	30
60	58	1F	64	11	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	4C	47	20	54	56	0A	20	20	20	20	20	20	20	01	8A

o HDMI-3 EDID DATA

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	03	18	F1	47	84	05	03	02	20	22	10	23	15	07	50
10	67	03	0C	00	30	00	B8	2D	01	1D	00	72	51	D0	1E	20
20	6E	28	55	00	C4	8E	21	00	00	1E	01	1D	80	18	71	1C
30	16	20	58	2C	25	00	C4	8E	21	00	00	9E	8C	0A	D0	8A
40	20	E0	2D	10	10	3E	96	00	C4	8E	21	00	00	18	8C	0A
50	D0	8A	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00	18
60	8E	1F	00	80	51	00	1E	30	40	80	37	00	C4	8E	21	00
70	00	1C	00	00	00	00	00	00	00	00	00	00	00	00	00	8A

o RGB EDID DATA

7. Adjustment of White Balance

Caution: Press the POWER ON KEY on R/C before W/B adjustment.

7-1. Test Equipment

- Color Analyzer (CS-1000, CA-100+(CH.10), CA-210(CH.10))

[Please adjust CA-100+ / CA-210 by CS-1000 before measuring
--> You should use Channel 10 which is Matrix compensated (White, Red, Green, Blue revised) by CS-1000 and adjust in accordance with White balance adjustment coordinate.

o Color temperature standards according to CSM and Module

CSM	PLASMA
Cool	11000K
Medium	9300K
Warm	6500K

o Change target luminance and range of the Auto adjustment W/B equipment.

Target luminance	85
Range	20

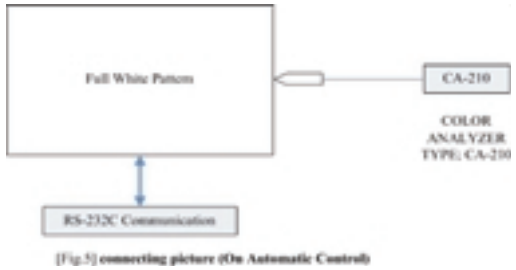
o White balance adjustment coordinate and color temperature

Cool	CS-1000	CA-100+ (CH.10)	CA-210 (CH.10)
x	0.276	0.276±0.002	0.276±0.002
y	0.283	0.283±0.002	0.283±0.002
Δuv	0.000	0.000	0.000
Medium	CS-1000	CA-100+ (CH.10)	CA-210 (CH.10)
x	0.285	0.285±0.002	0.285±0.002
y	0.293	0.293±0.002	0.293±0.002
Δuv	0.000	0.000	0.000
Warm	CS-1000	CA-100+ (CH.10)	CA-210 (CH.10)
x	0.313	0.313±0.002	0.313±0.002
y	0.329	0.329±0.002	0.329±0.002
Δuv	0.003	0.003	0.003

※ PC (for communication through RS-232C) → UART Baud rate : 115200 bps

7-2. Connecting Picture of the Measuring Instrument (On Automatic control)

Inside PATTERN is used when W/B is controlled. Connect to auto controller or push control R/C ADJ Key—> Enter the mode of White-Balance, the pattern will come out.



[Fig.5] connecting picture (On Automatic Control)

7-3. Auto-control Interface and Directions

(1) Adjust in the place where the influx of light like floodlight around is blocked. (illumination is less than 10ux).
(2) In case of PDP: Measure and adjust after sticking the Color Analyzer (CA-100+, CA210) to the side of the module.

In case of LCD: Adhere closely the Color Analyzer (CA210) to the module less than 10cm distance, keep it with the surface of the Module and Color Analyzer's Prove vertically.(80~100°).

(3) Aging time
1) After aging start, keep the power on (no suspension of power supply) and heat-run over 5 minutes.
2) In case of PDP, keep white pattern using inside pattern.
3) In case of LCD, using 'no signal' or 'full white pattern' or the others, check the back light on.

o Auto Adjustment Map(RS-232C)

	RS-232C COMMAND [CMD ID DATA]			MIN	CENTER (DEFAULT)			MAX
	Cool	Mid	Warm		Cool	Mid	Warm	
R Gain	jg	Ja	jd	00	192	192	192	255
G Gain	jh	Jb	je	00	192	192	192	255
B Gain	ji	Jc	jf	00	192	192	192	255
R Cut					128	128	128	255
G Cut					128	128	128	255
B Cut					128	128	128	255

7-4. Manual White Balance

1) Press the POWER KEY on R/C for adjustment and heat run over 5 minutes.
2) Zero Calibrate CA-100+ / CA-210, and when controlling, stick the sensor to the center of PDP module surface.
3) Press the ADJ KEY on R/C and enter EZ ASJUST
Select "3. W/B ADJUST" and press ENTER(A).
Set test-pattern on and display inside pattern.

4) Control is carried out on three color temperatures, COOL, MEDIUM, WARM.
(Control is carried out three times)

<Temperature: COOL>
- R-offset / G-offset / B-offset is set to 128
- Control R-Gain and G-Gain.
- Each gain is limited to 192

<Temperature: MEDIUM>
- R-offset / G-offset / B-offset is set to 128
- Control R-Gain and G-Gain.
- Each gain is limited to 192

<Temperature: WARM>
- R-offset / G-offset / B-offset is set to 128
- Control G-Gain and B-Gain.
- Each gain is limited to 192

8. HDCP(High-Bandwidth Digital Contents Protection) SETTING

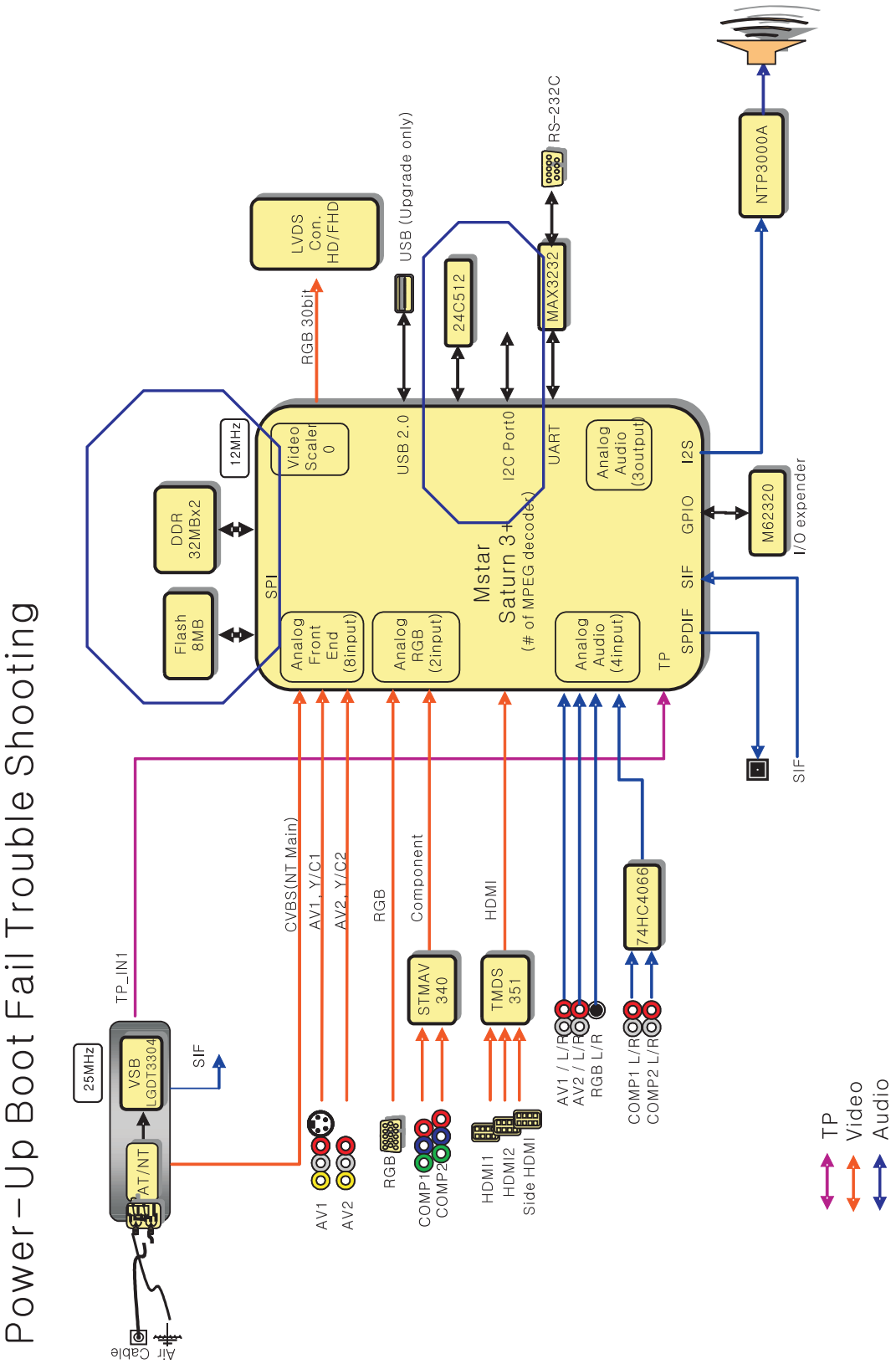
(1) Connect D-sub Signal Cable to D-Sub Jack
(2) Input HDCP key with HDCP-key- in-program
(3) HDCP Key value is stored on EEPROM(AT24C512) which is 80~A1 addresses of 0xA0~0xA2 page
(4) AC off/ on and on HDCP button of MSPG925 and confirm whether picture is displayed or not of using MSPG925
(5) HDCP Key value is different among the sets.

9. RS-232C

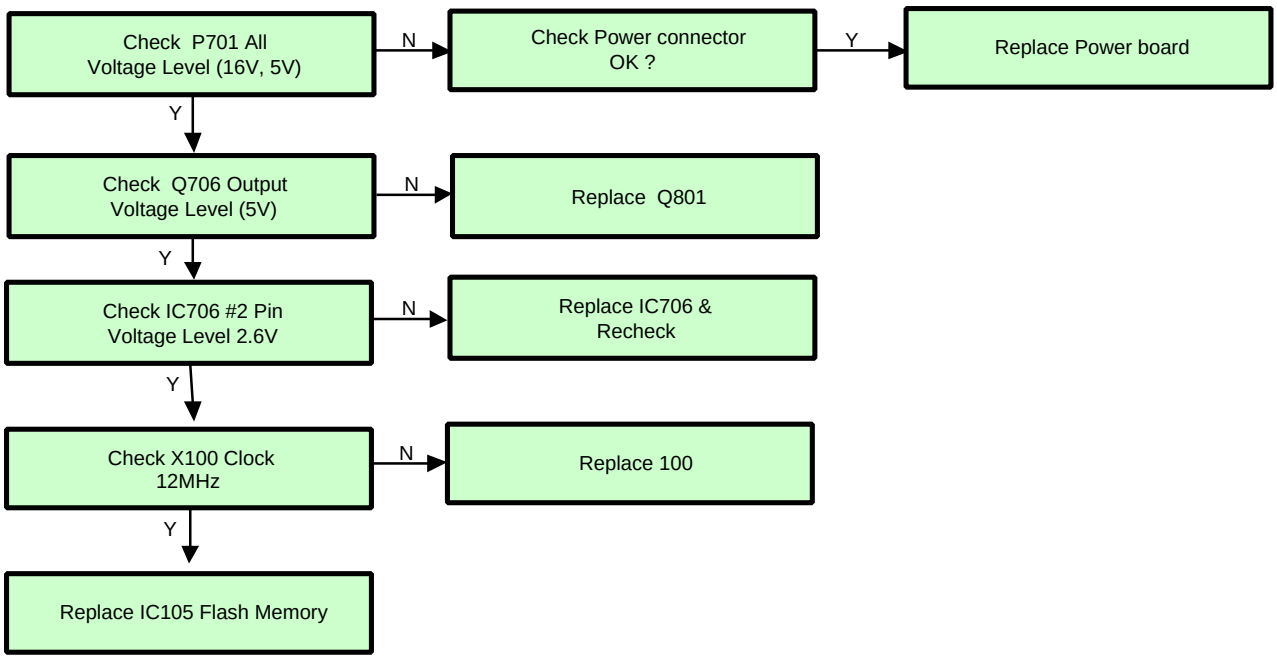
Press In-start key and select 3.Baud Rate menu. Check RS-232C after changing Baud Rate 115200.

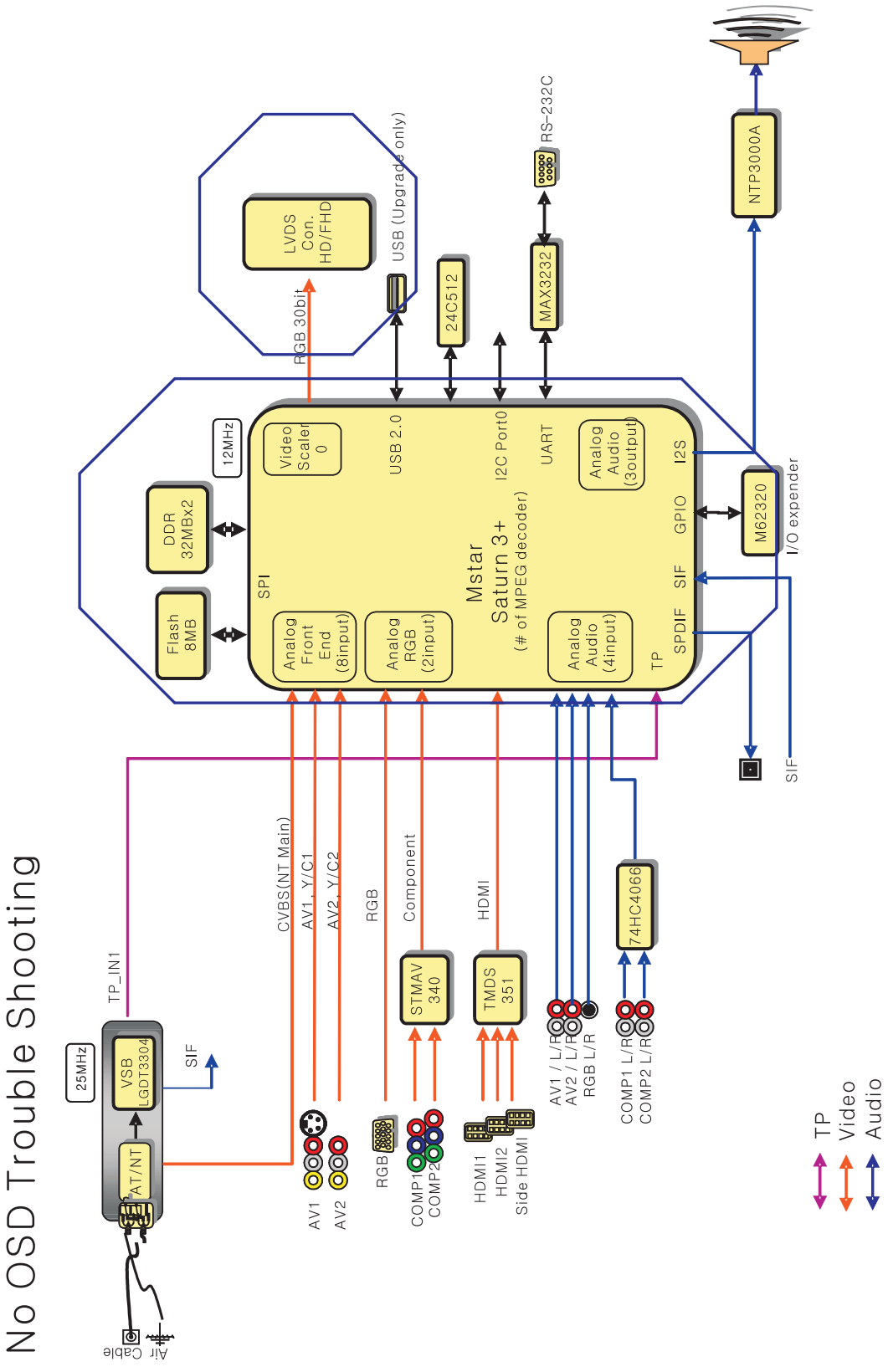
10. OPTION

(1) Press ADJ R/C In-start key and select 0.AREA OPTION
(2) Select Country by using F/G(VOL +/-) in accordance with destination

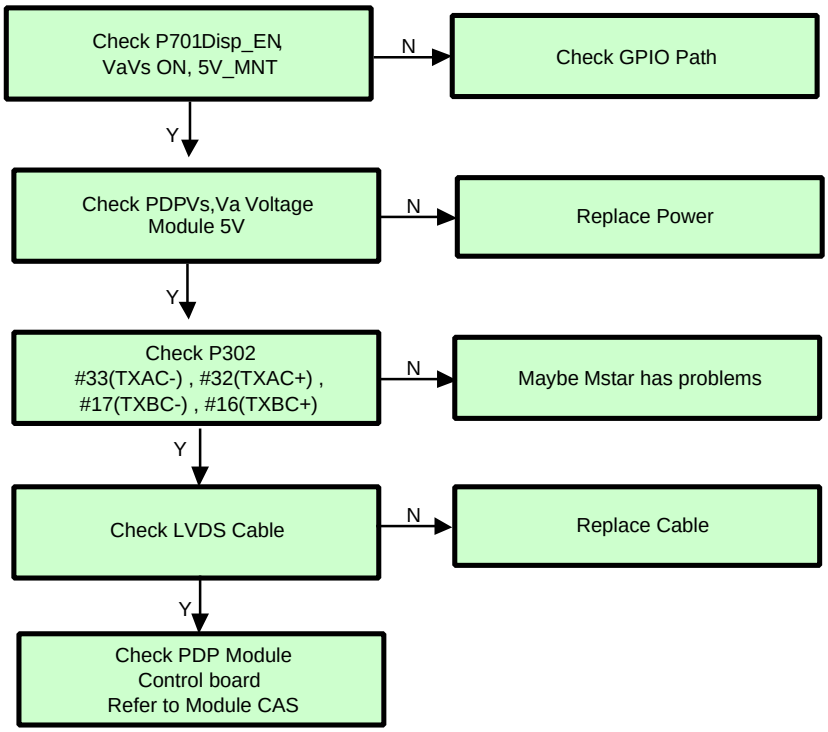


Power-Up Boot Fail Trouble Shooting

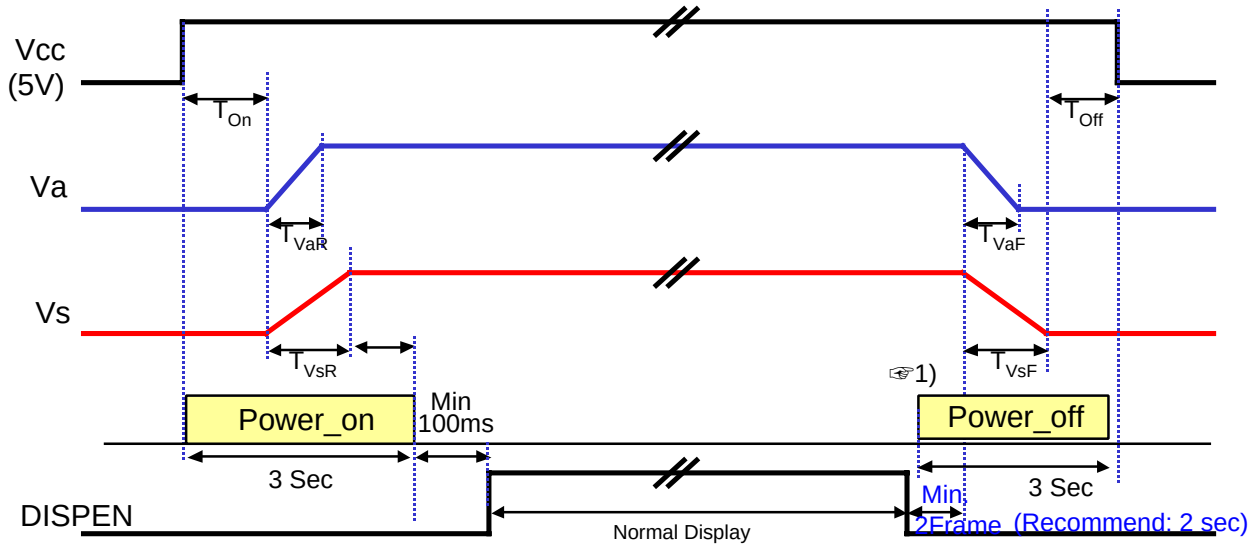




No OSD Trouble Shooting

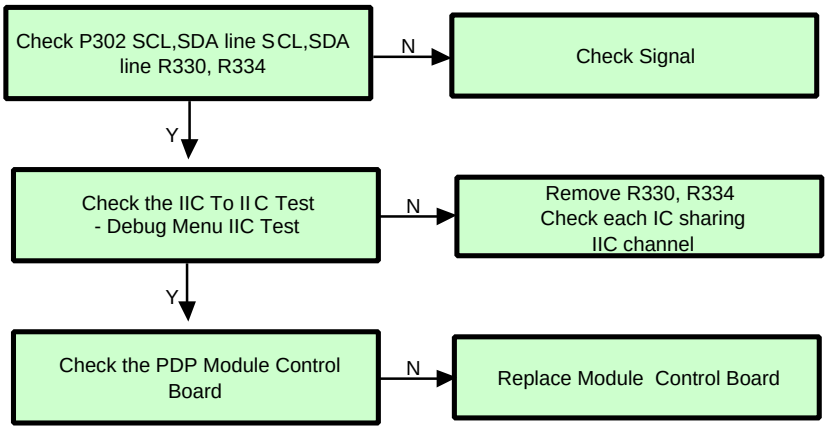


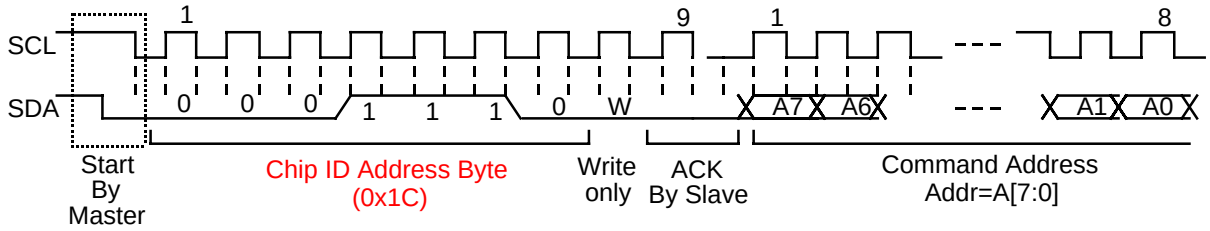
No OSD Trouble Shooting (Module Power Sequence)

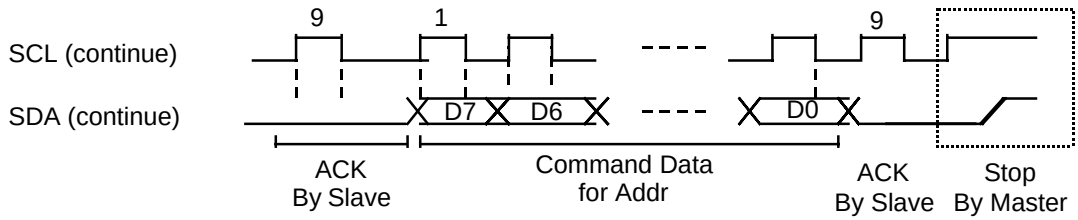


Symbol	Description	Min.	Max.	unit
T_{On}	Time interval between 90% of Vcc and 10% of Vs when Power On	500	-	msec
T_{Off}	Time interval between 10% of Vs and 90% of Vcc when Power Off	20	-	msec
T_{VaR}	Rising Time of Va (10% to 90%)	10	300	msec
T_{VaF}	Falling Time of Va (90% to 10%)	50	300	msec
T_{VsR}	Rising Time of Vs (10% to 90%)	100	800	msec
T_{VsF}	Falling Time of Vs (90% to 10%)	90	500	msec
T_{on} + T_{VsR}	Time interval between 90% of Vcc and 90% of Vs when Power On	600	2000	msec

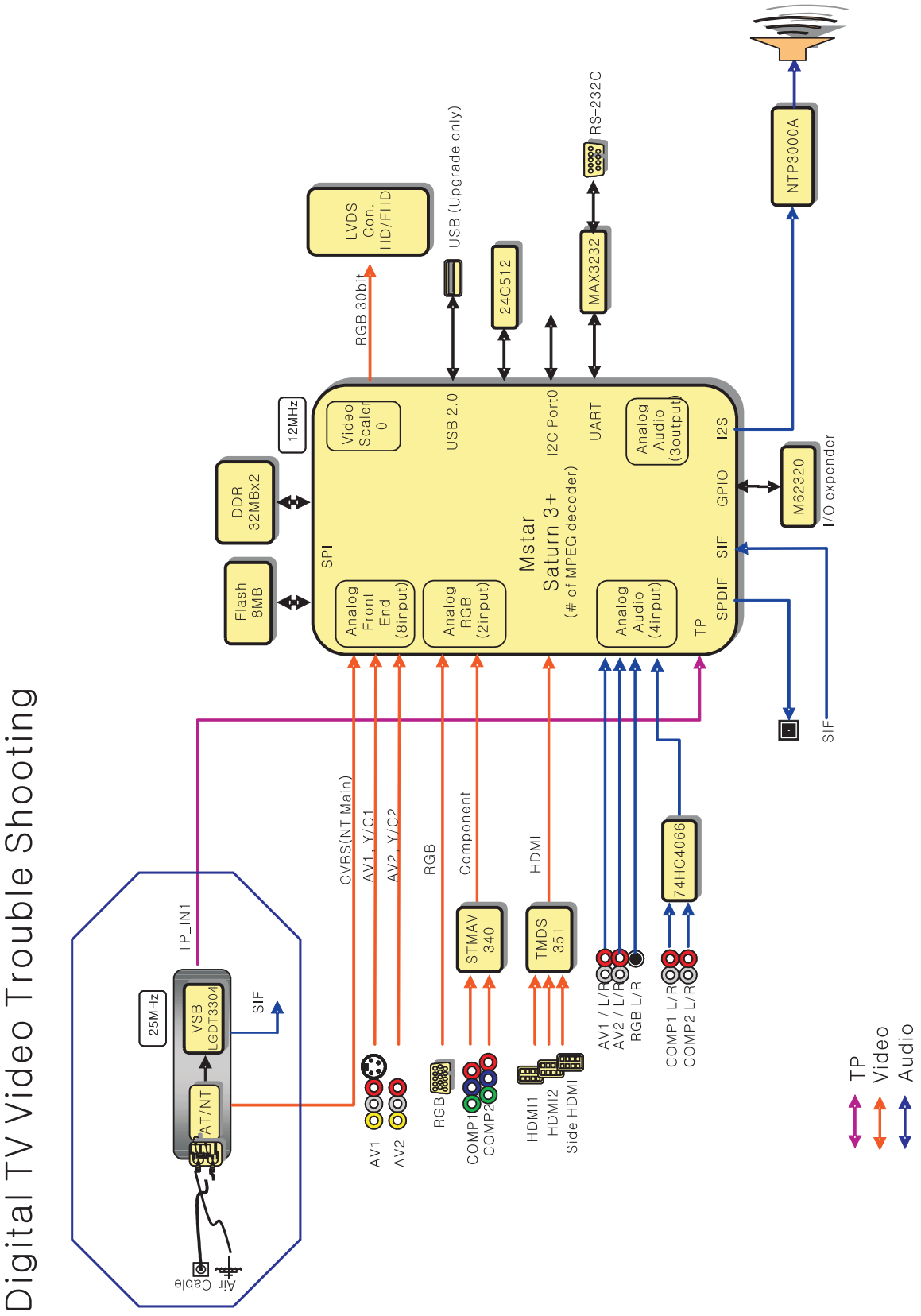
Module Control Trouble Shooting



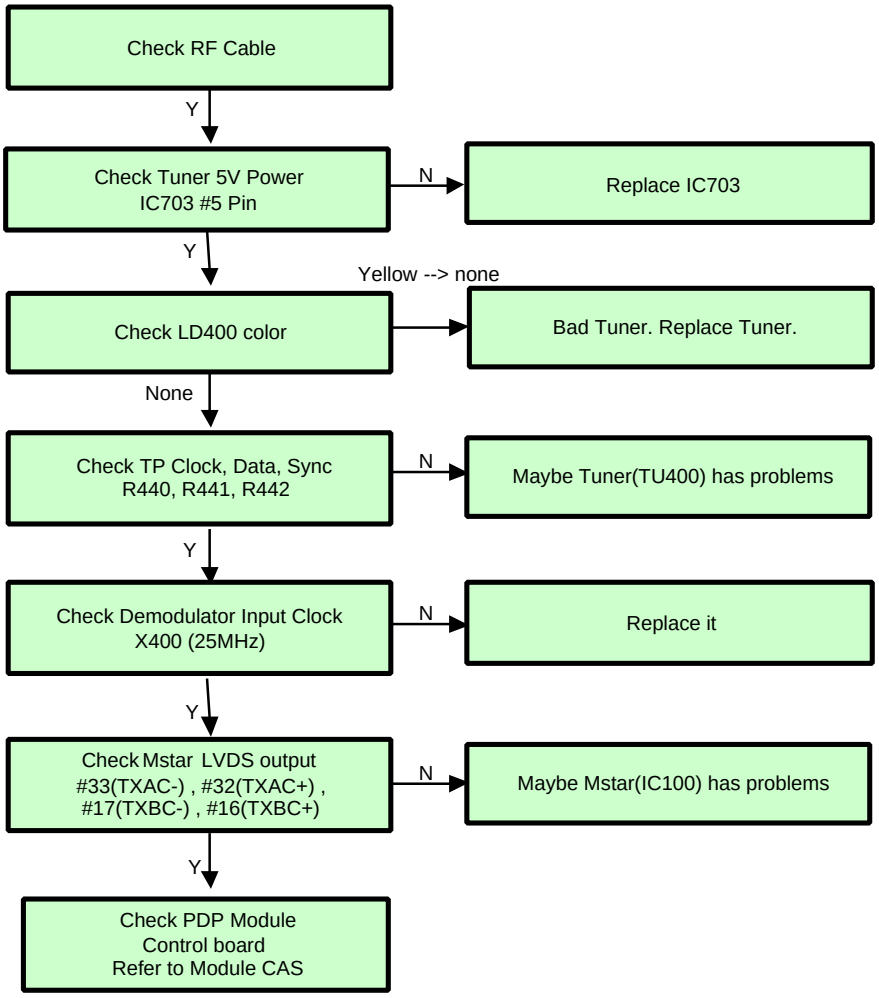


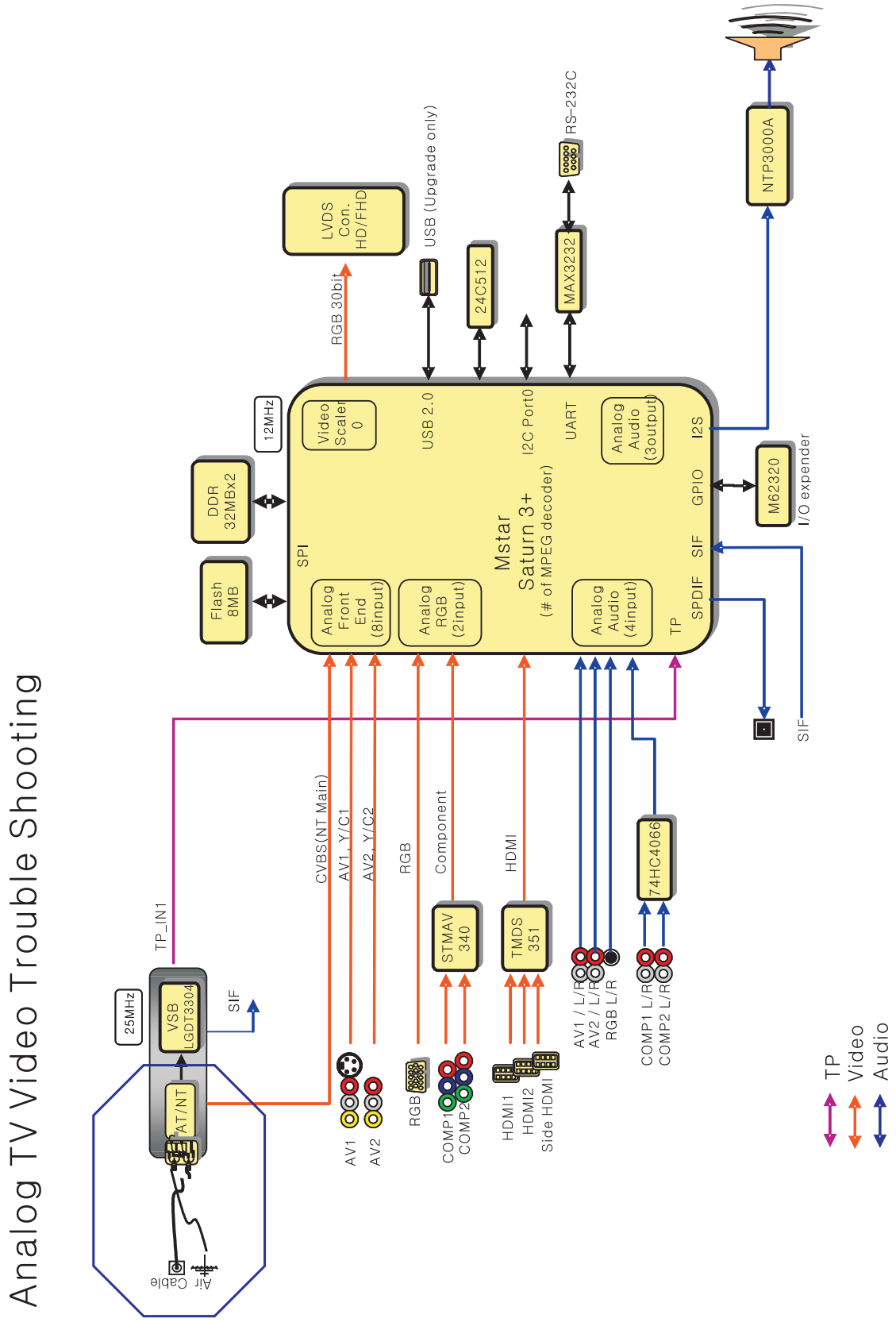


Master : Image Board
Slave :PDP Module

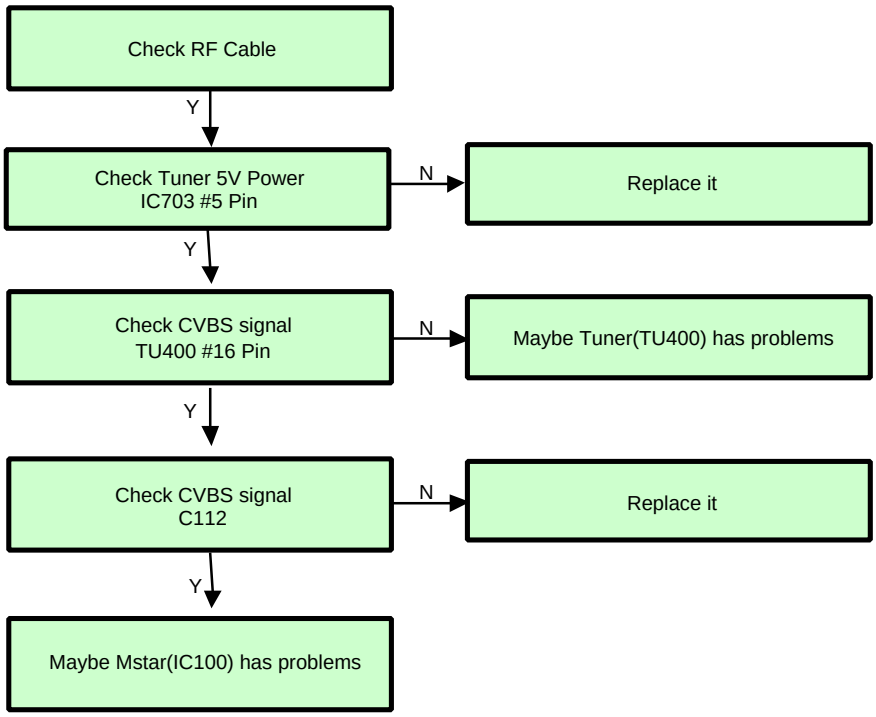


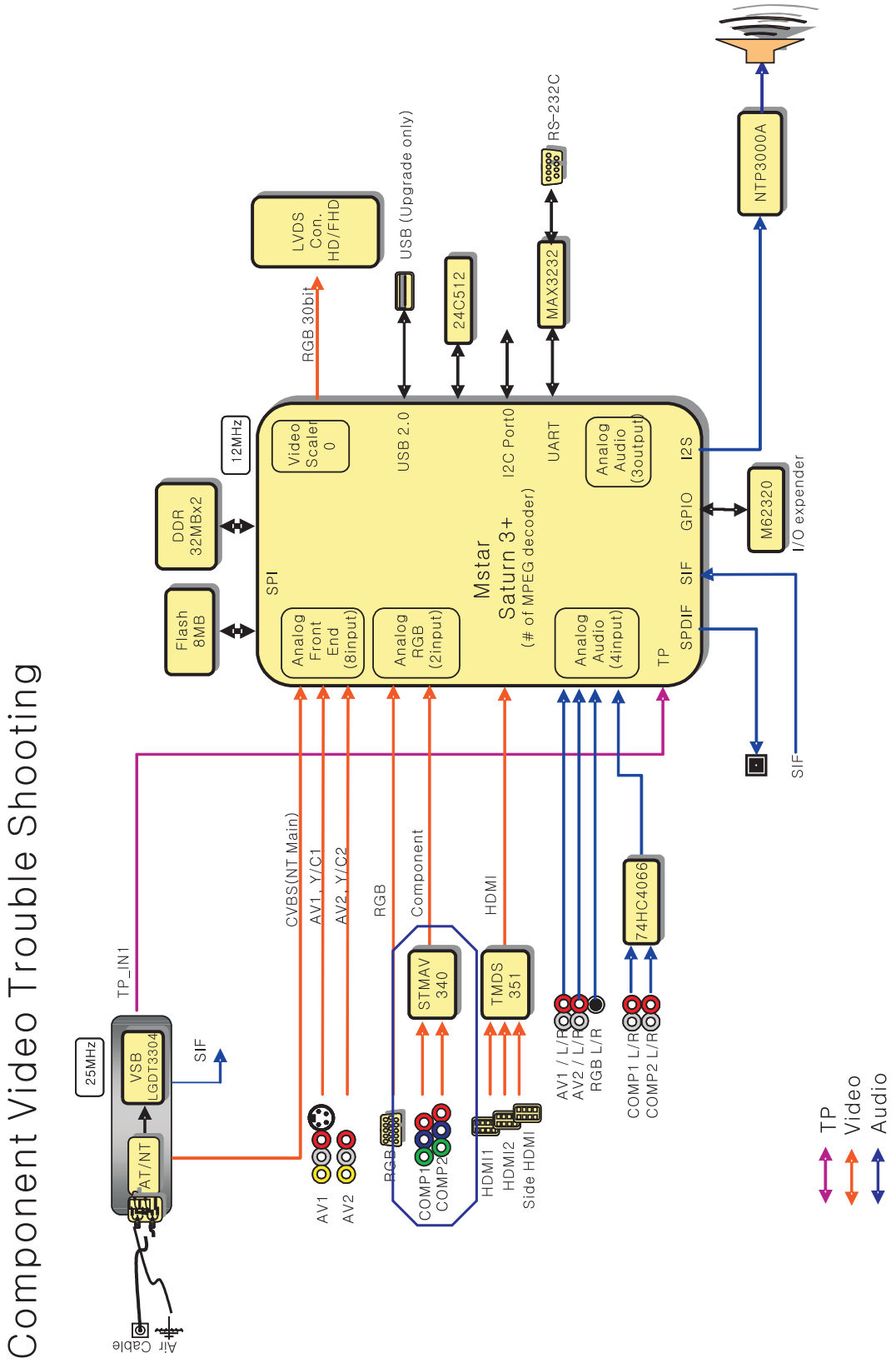
Digital TV Video Trouble Shooting



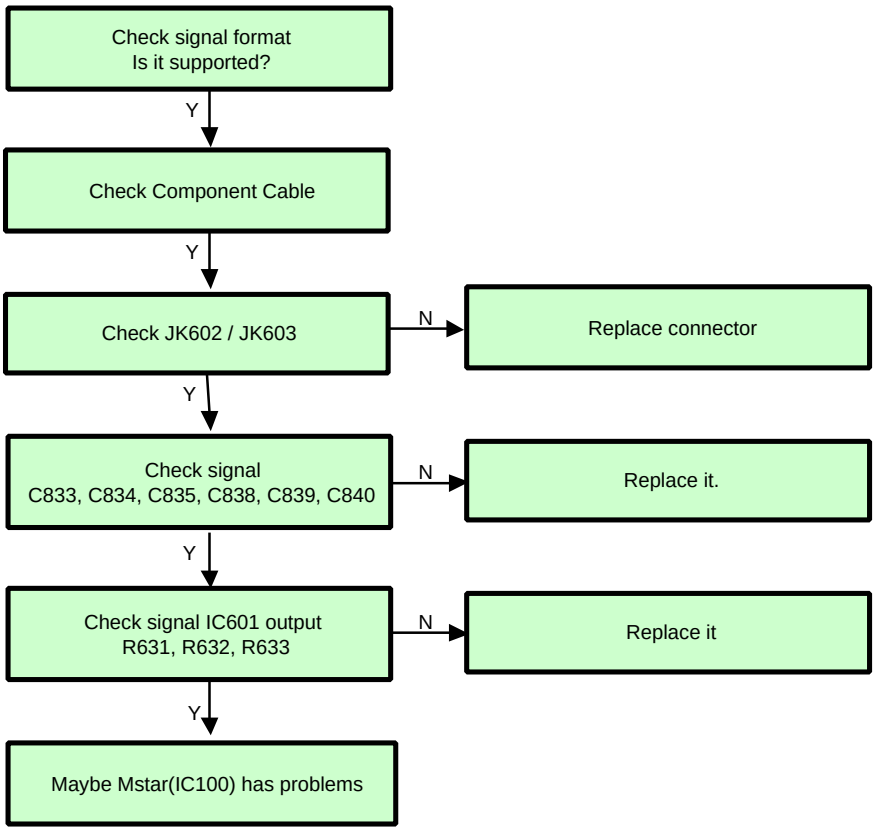


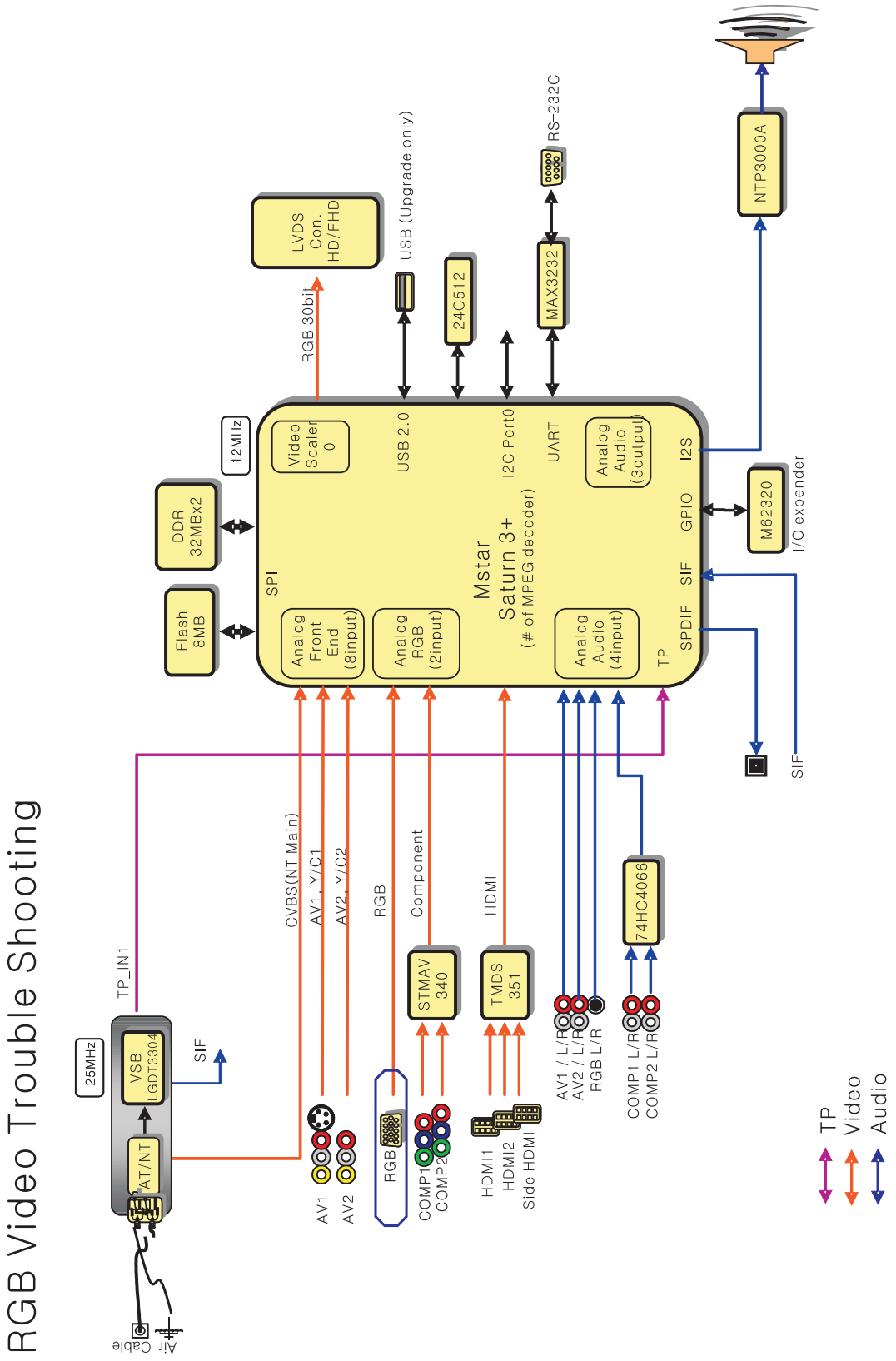
Analog TV Video Trouble Shooting



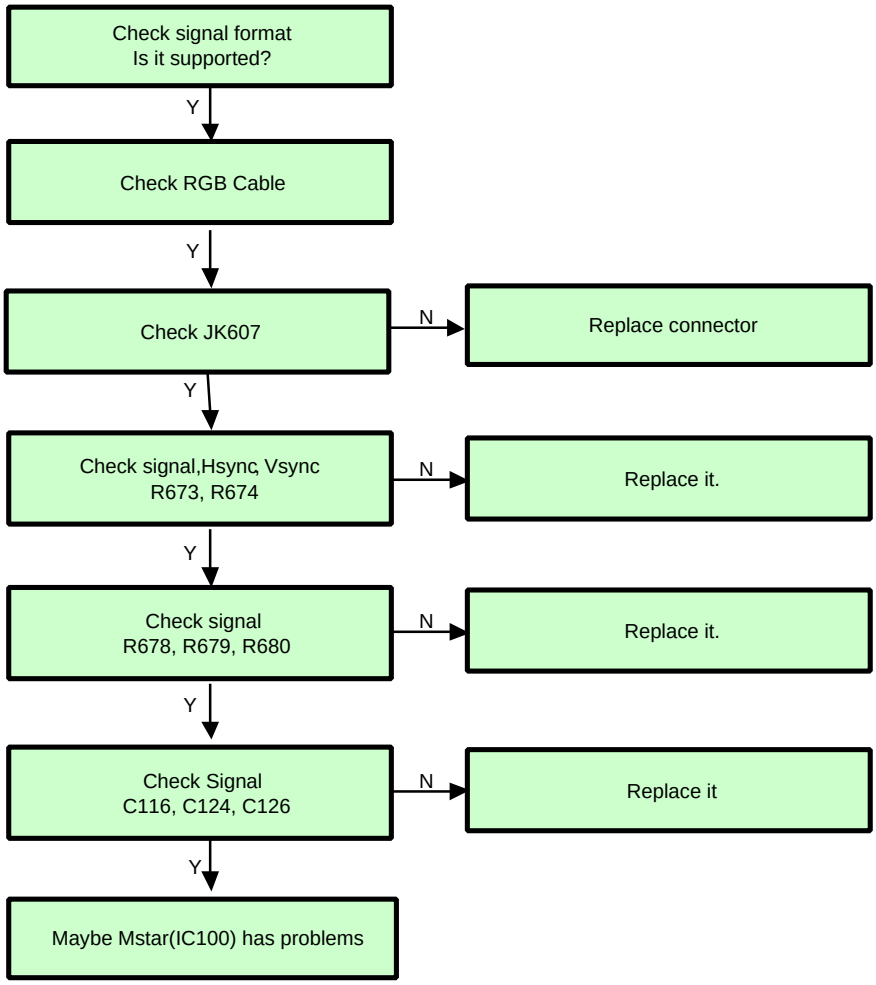


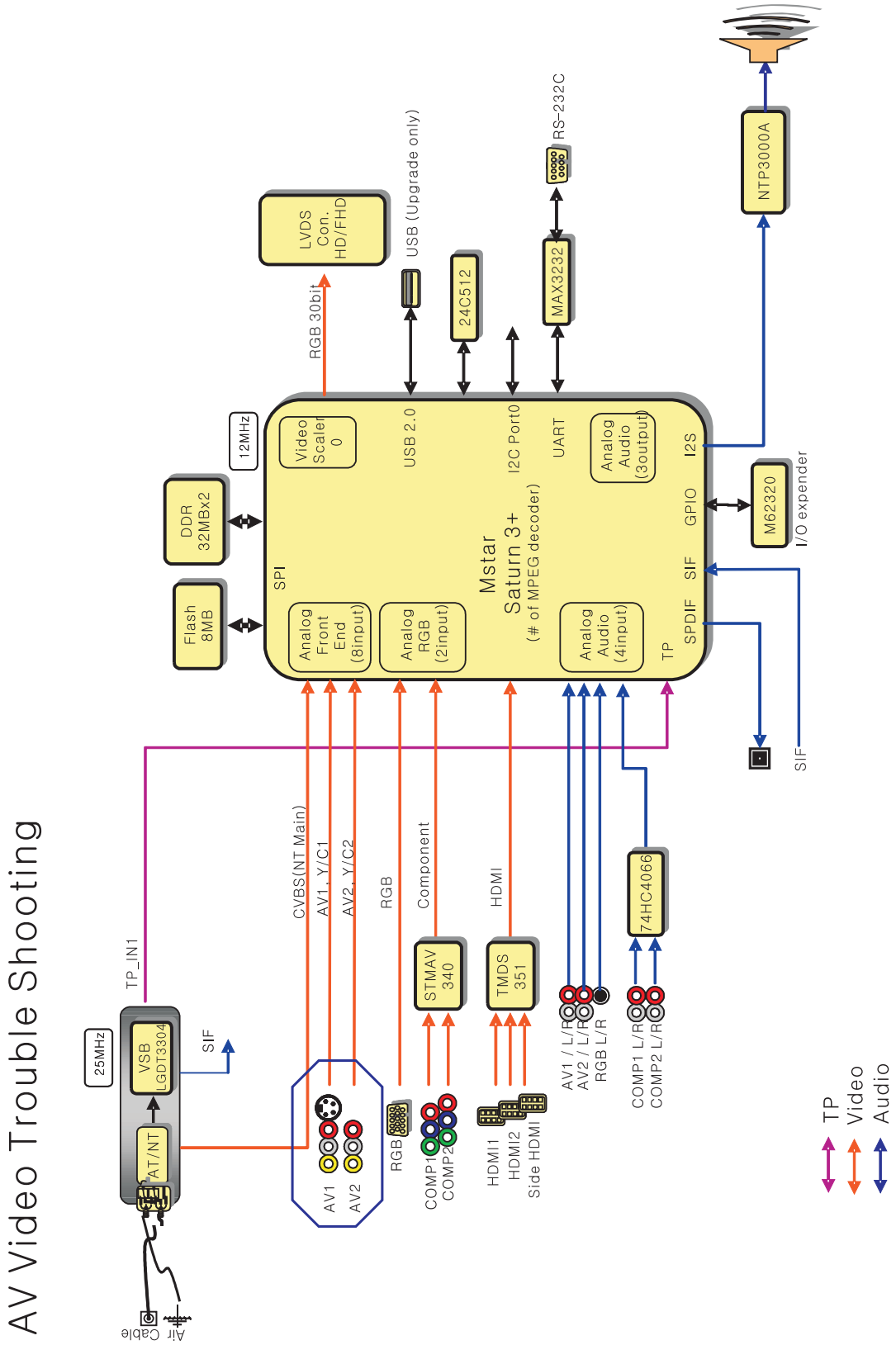
Component Video Trouble Shooting



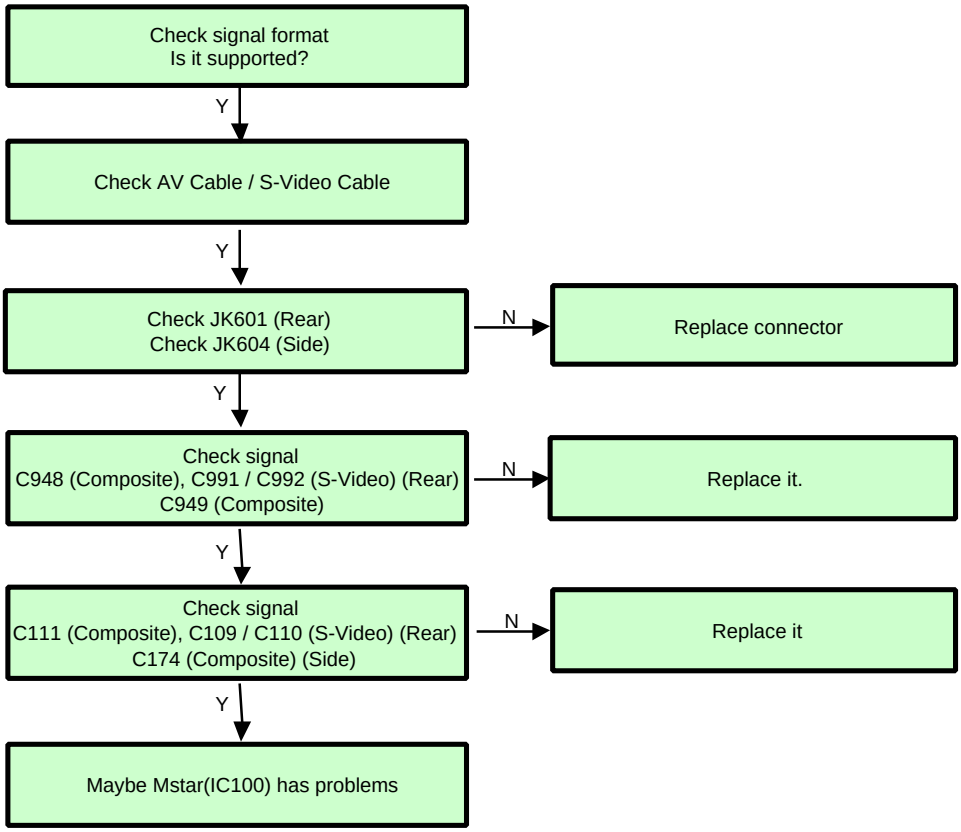


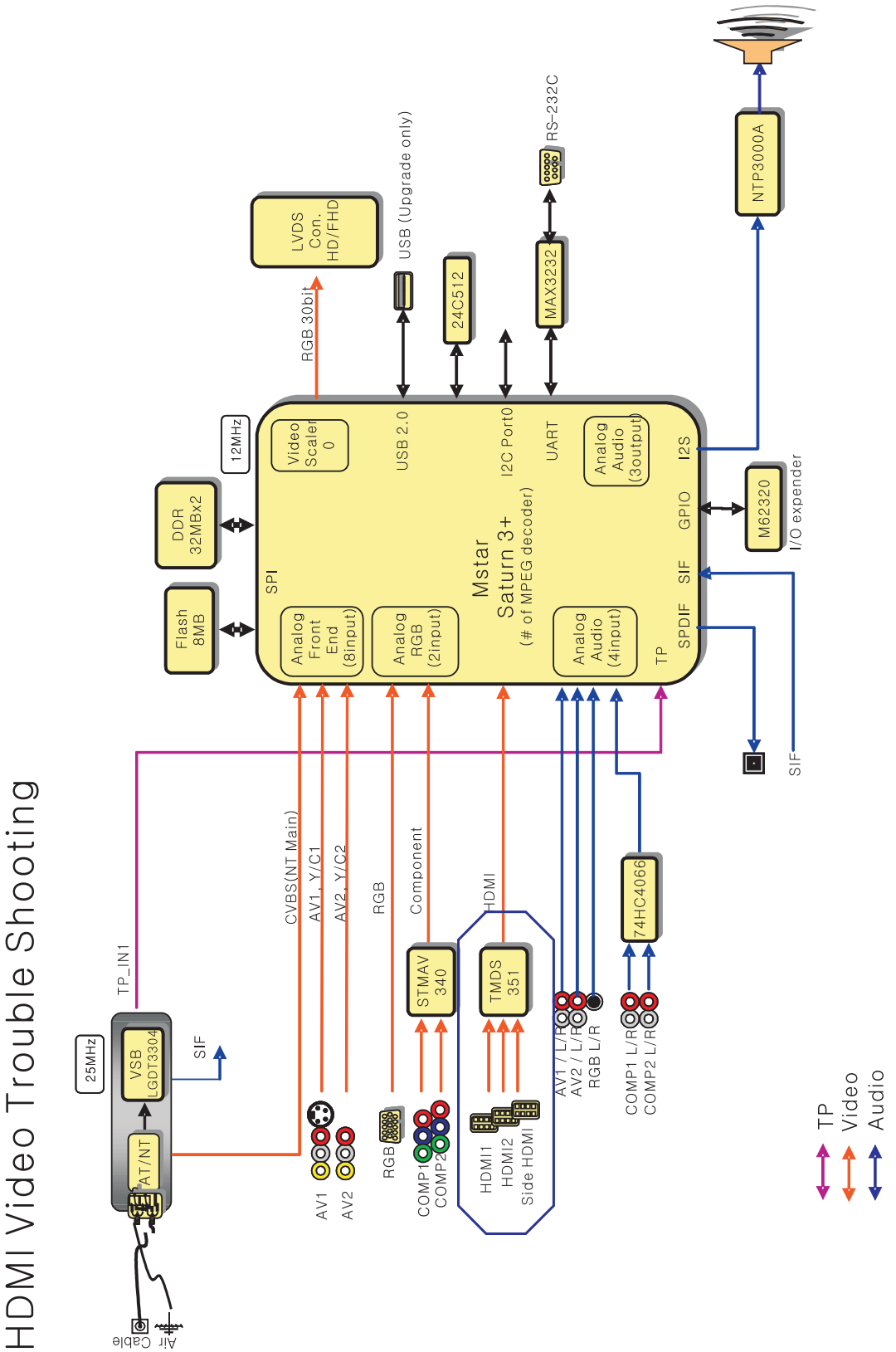
RGB Video Trouble Shooting

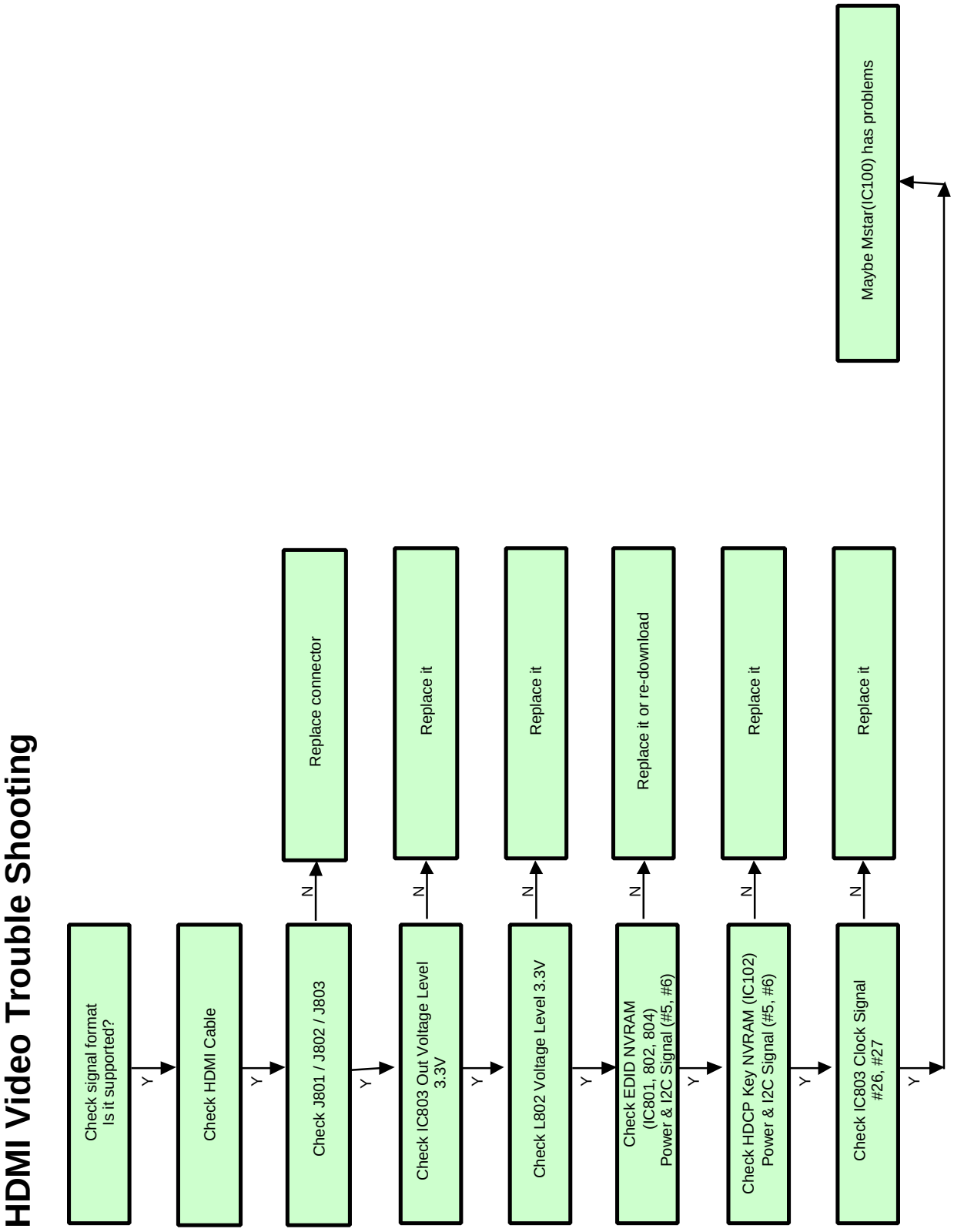


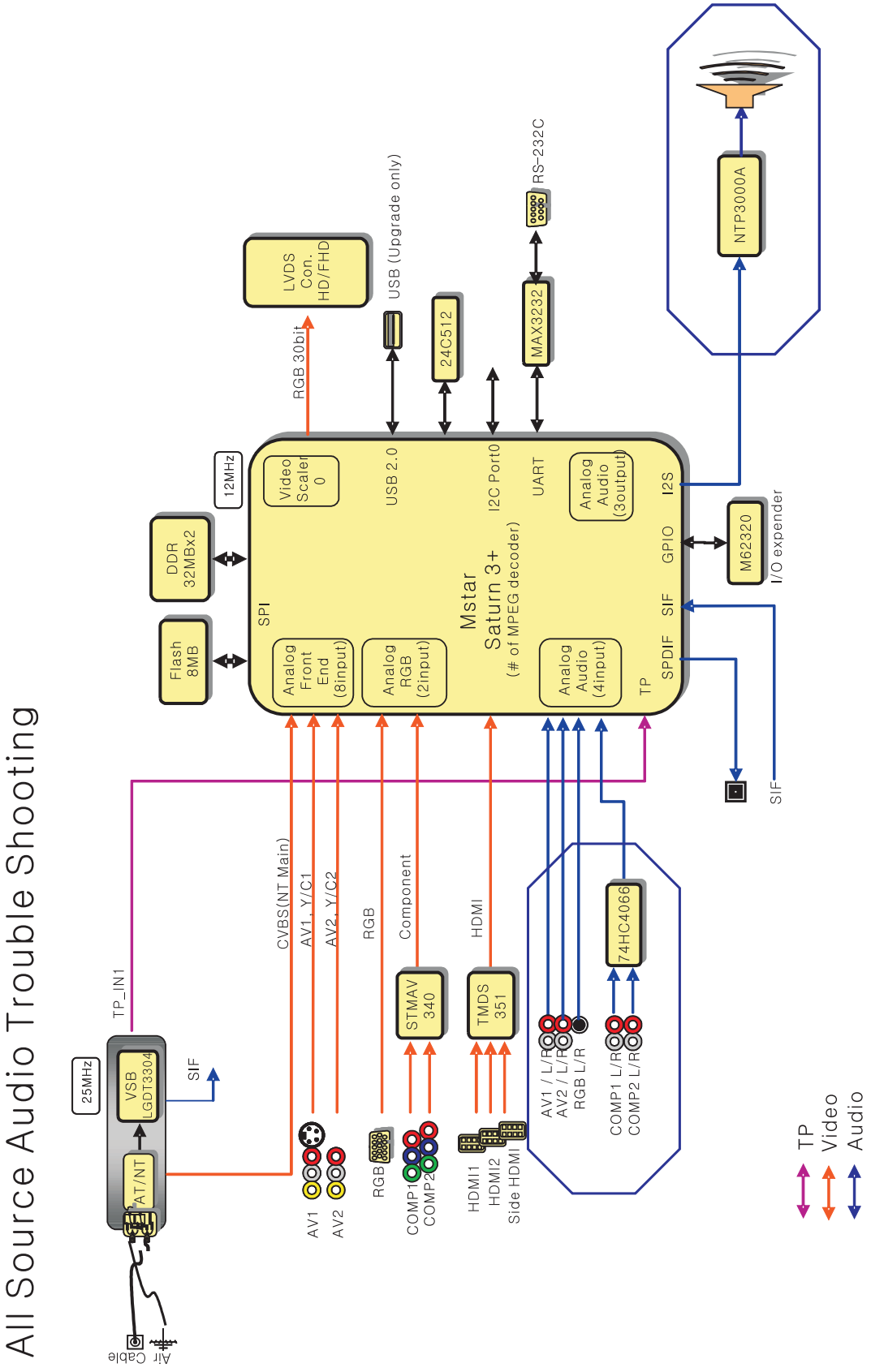


AV Video Trouble Shooting

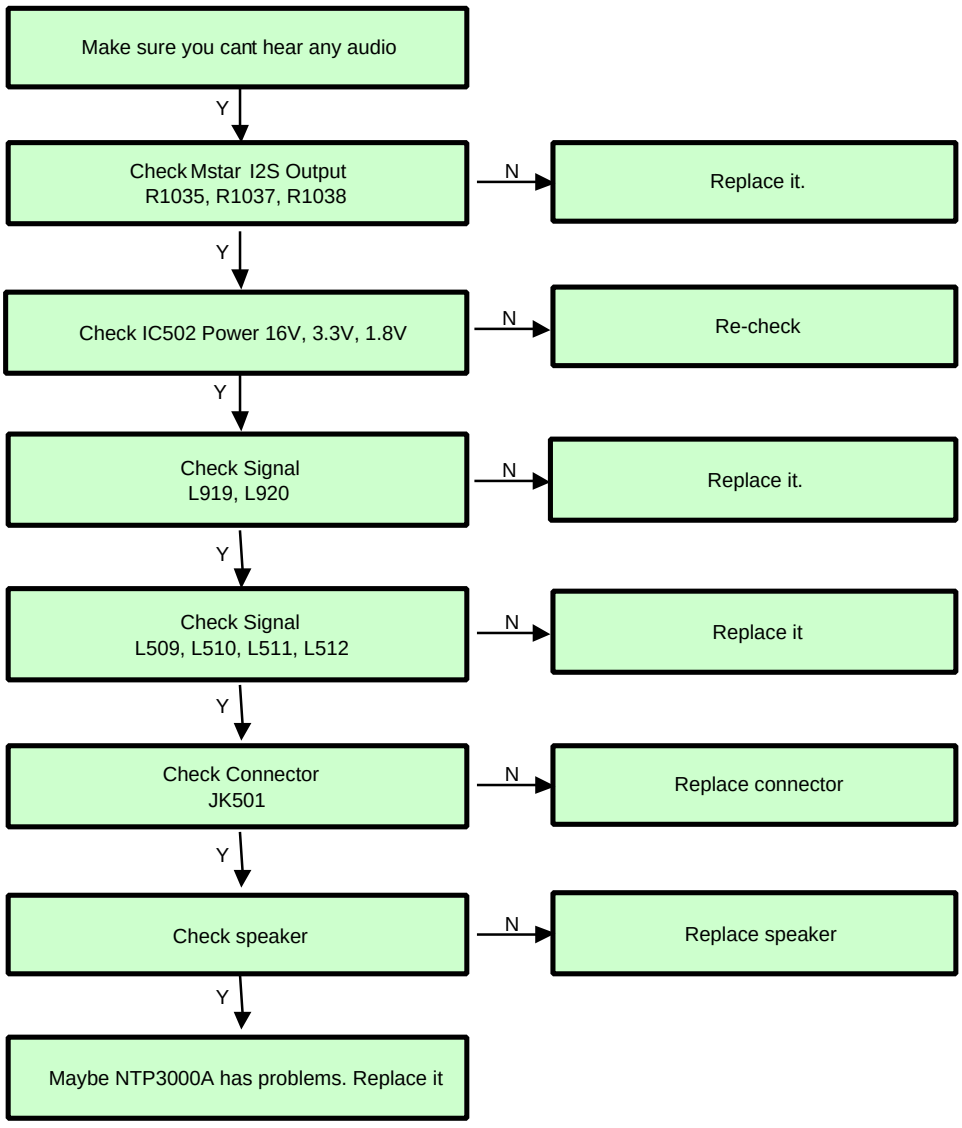


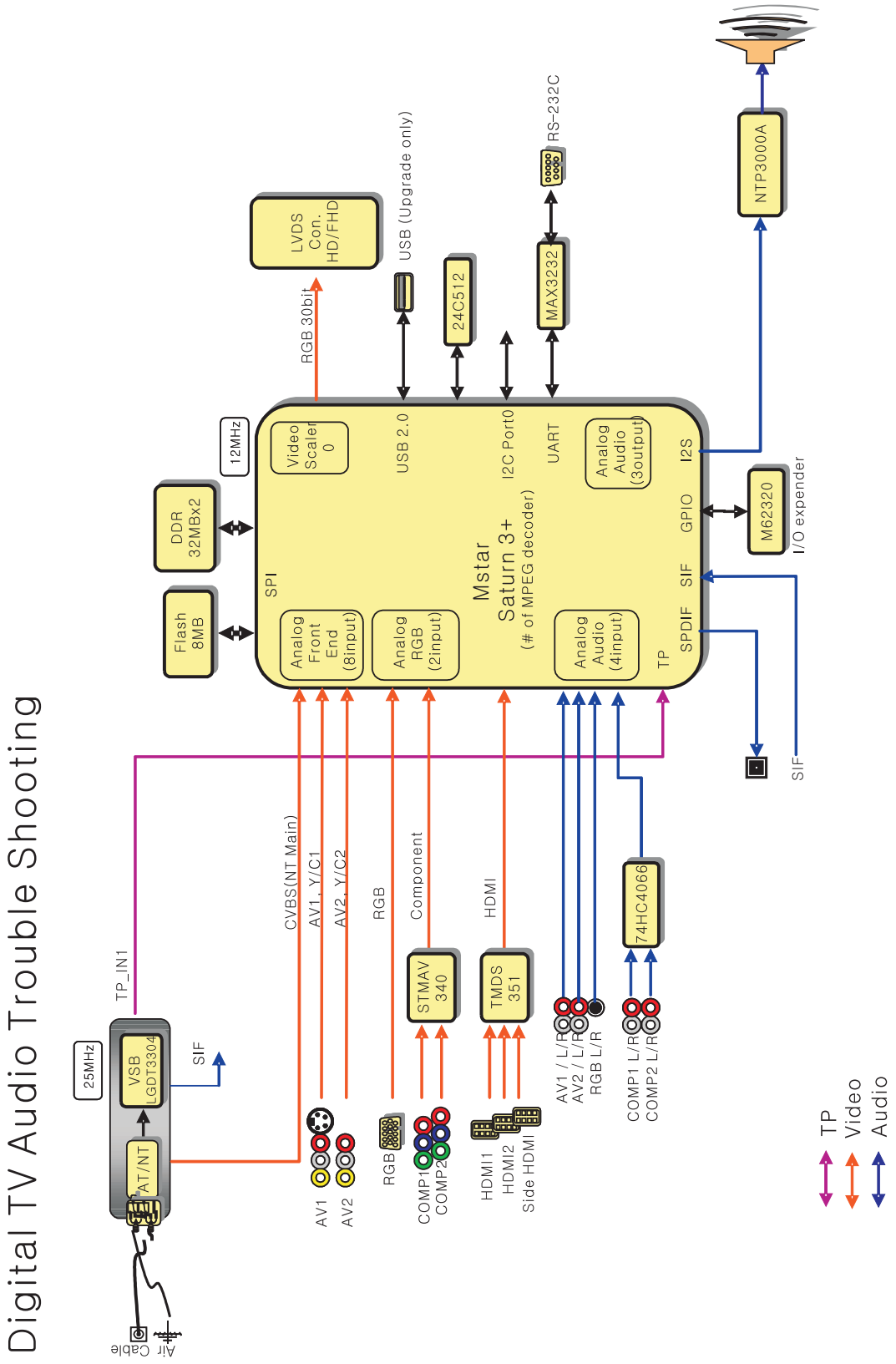




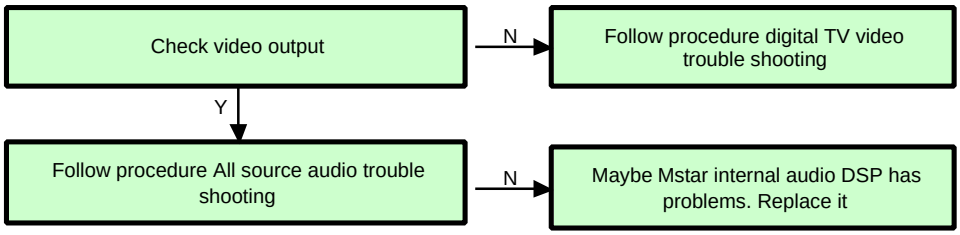


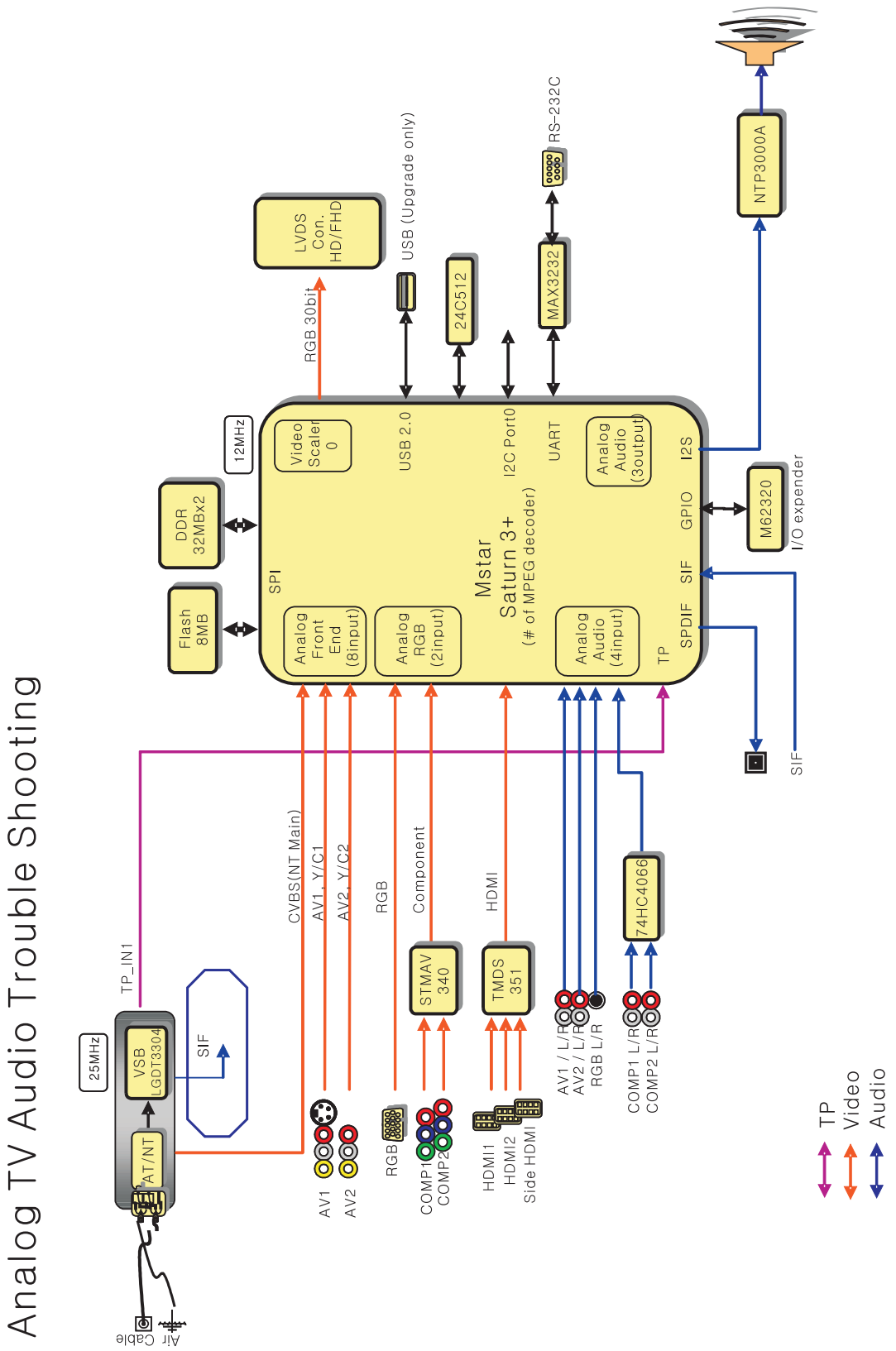
All Source Audio Trouble Shooting



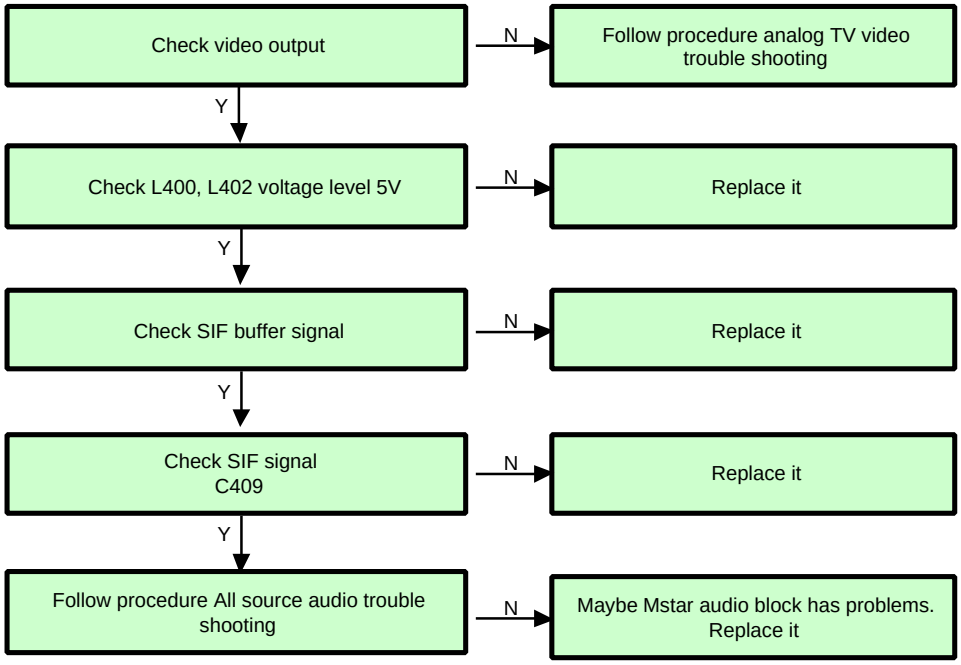


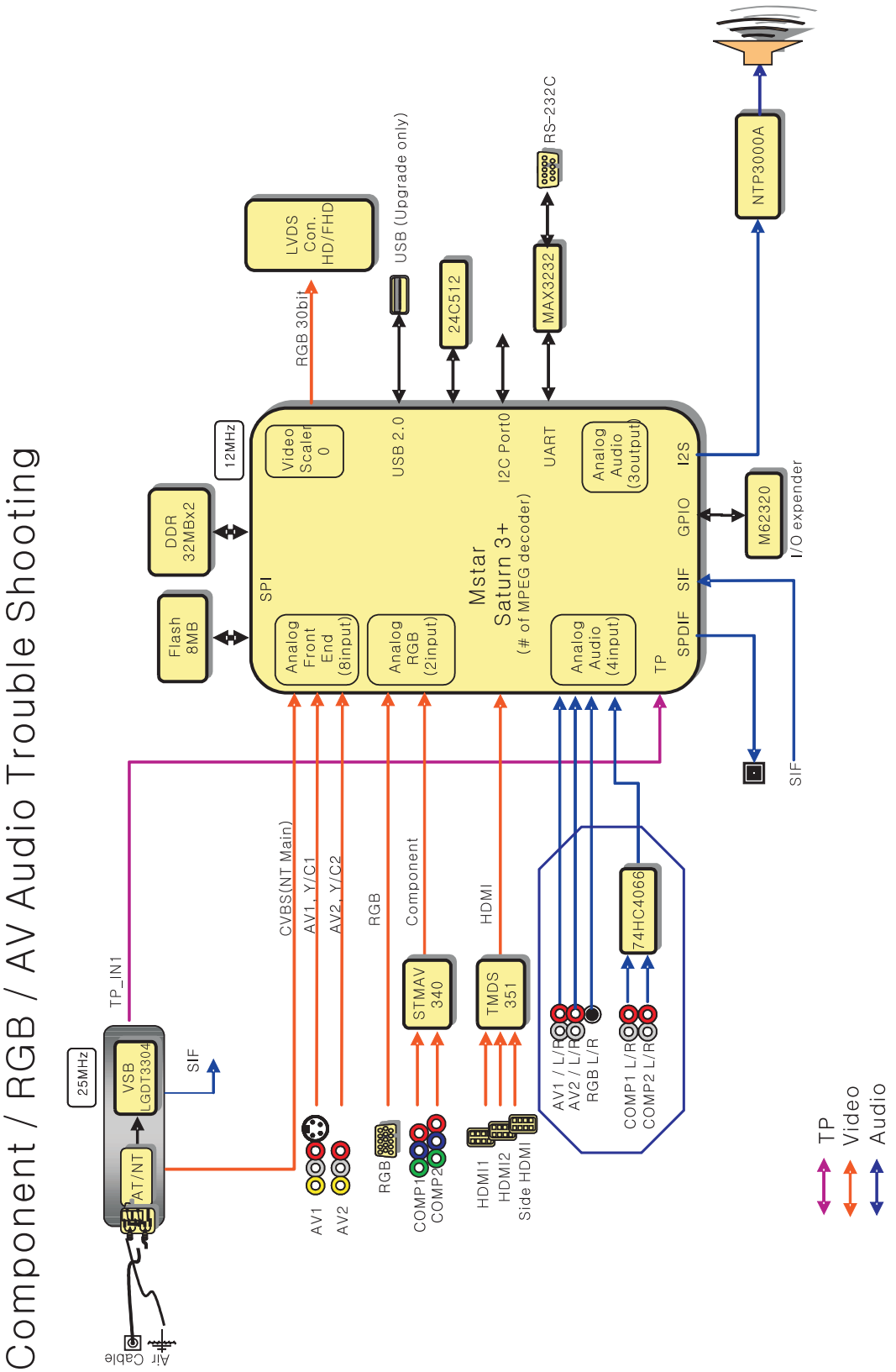
Digital TV Audio Trouble Shooting



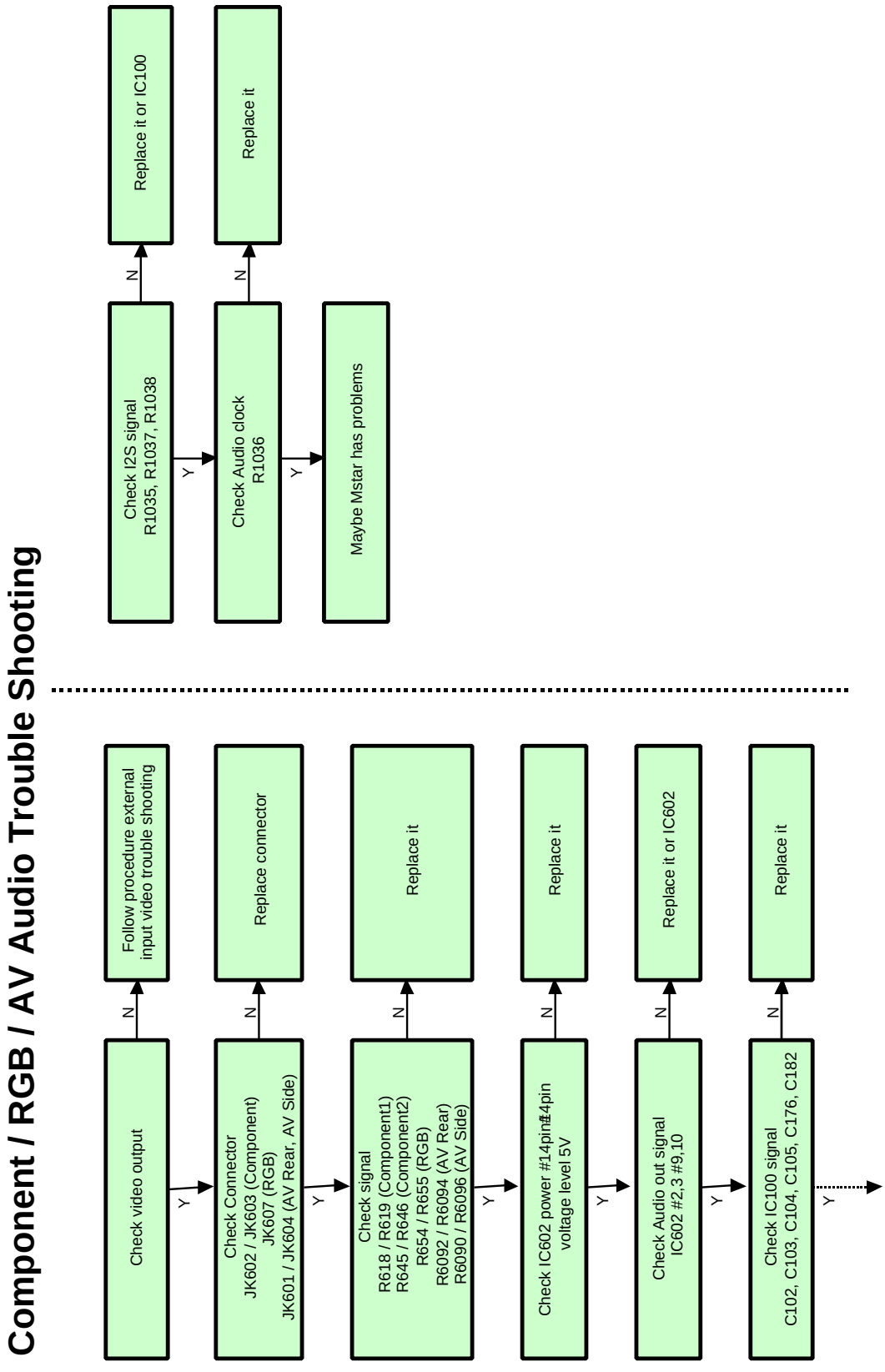


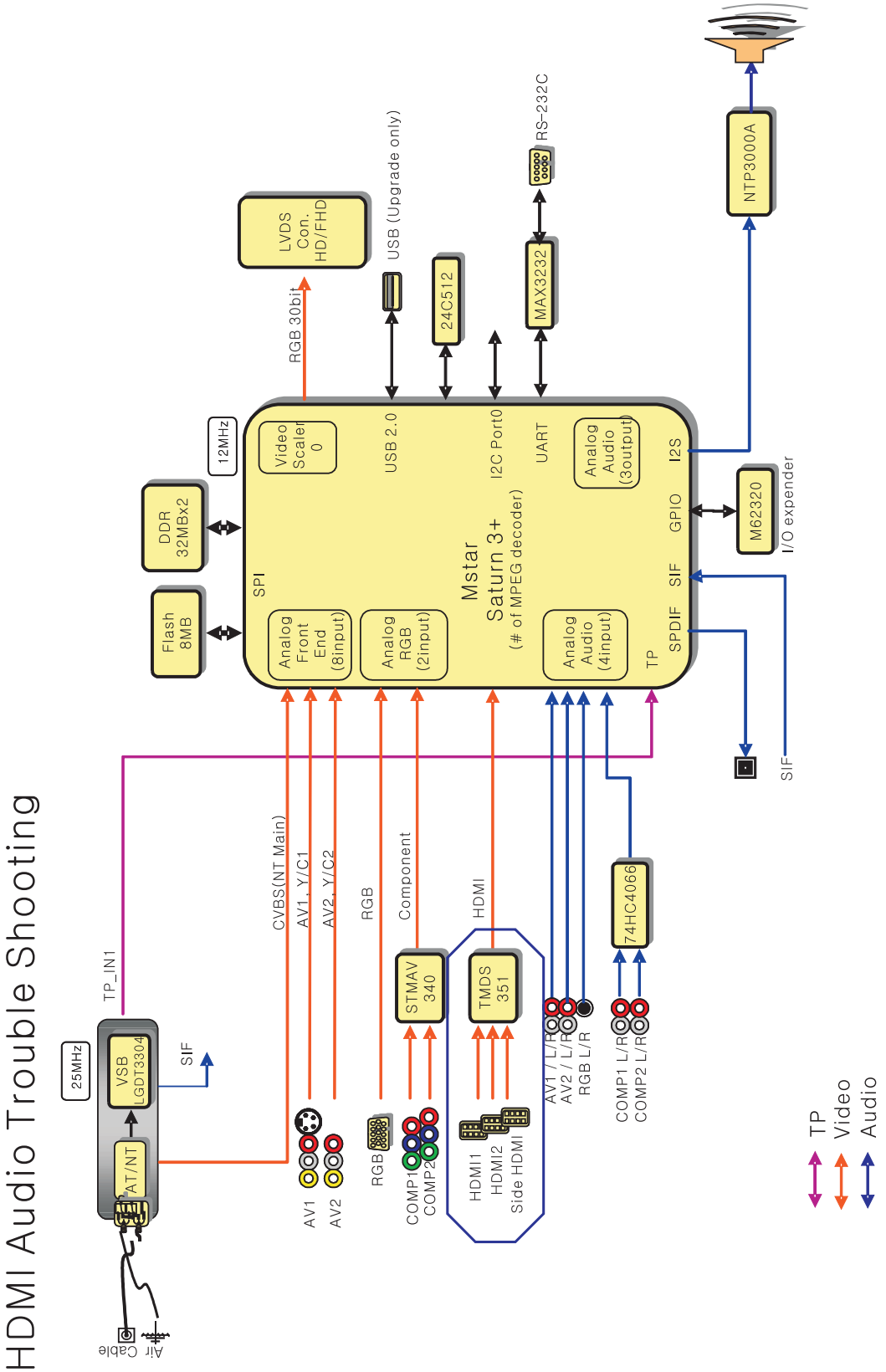
Analog TV Audio Trouble Shooting



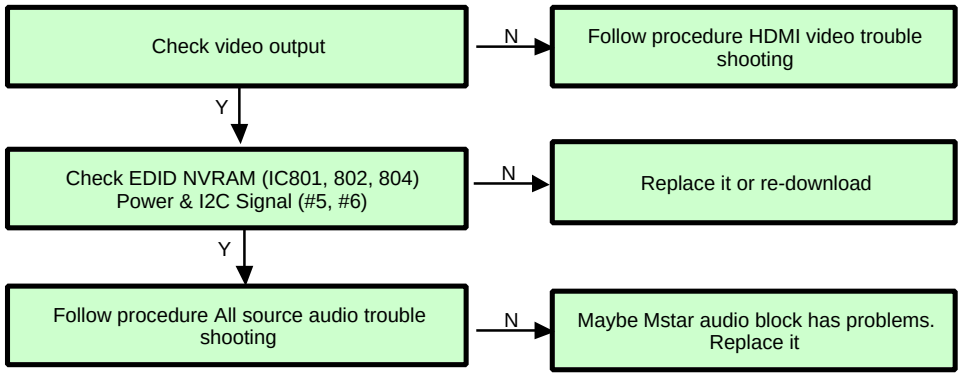


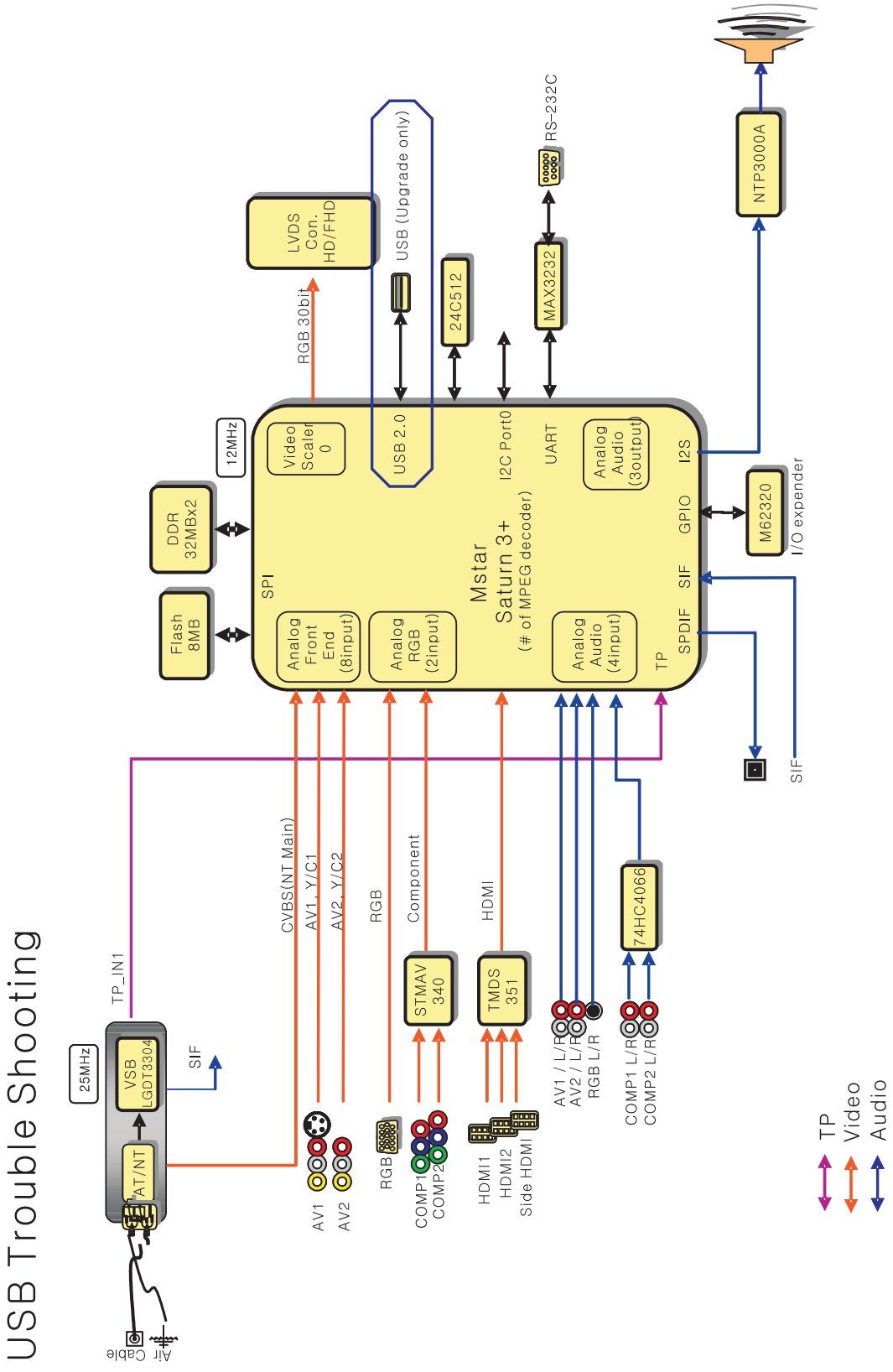
Component / RGB / AV Audio Trouble Shooting



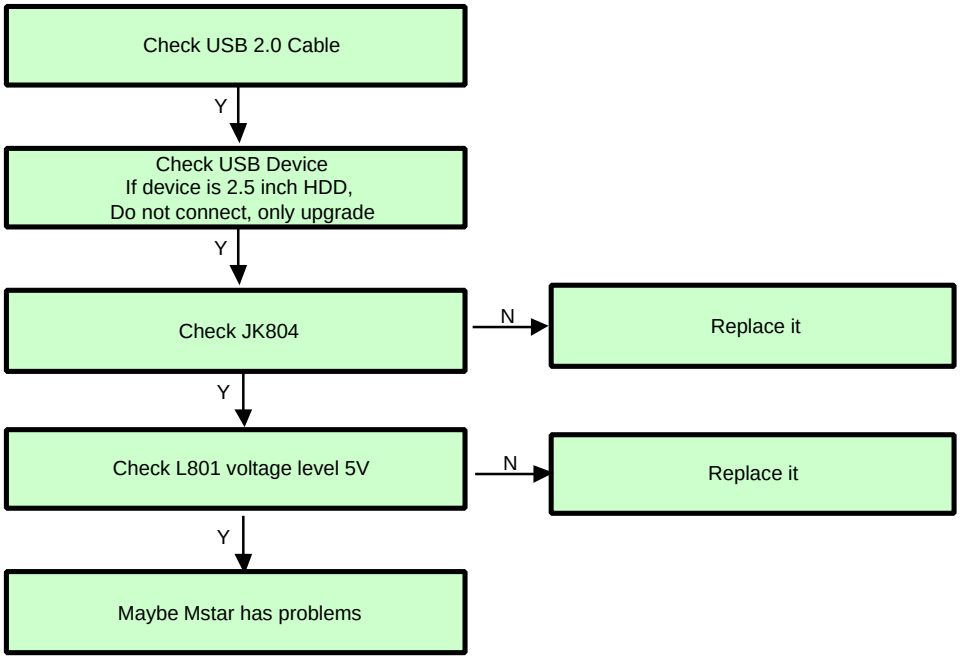


HDMI Audio Trouble Shooting





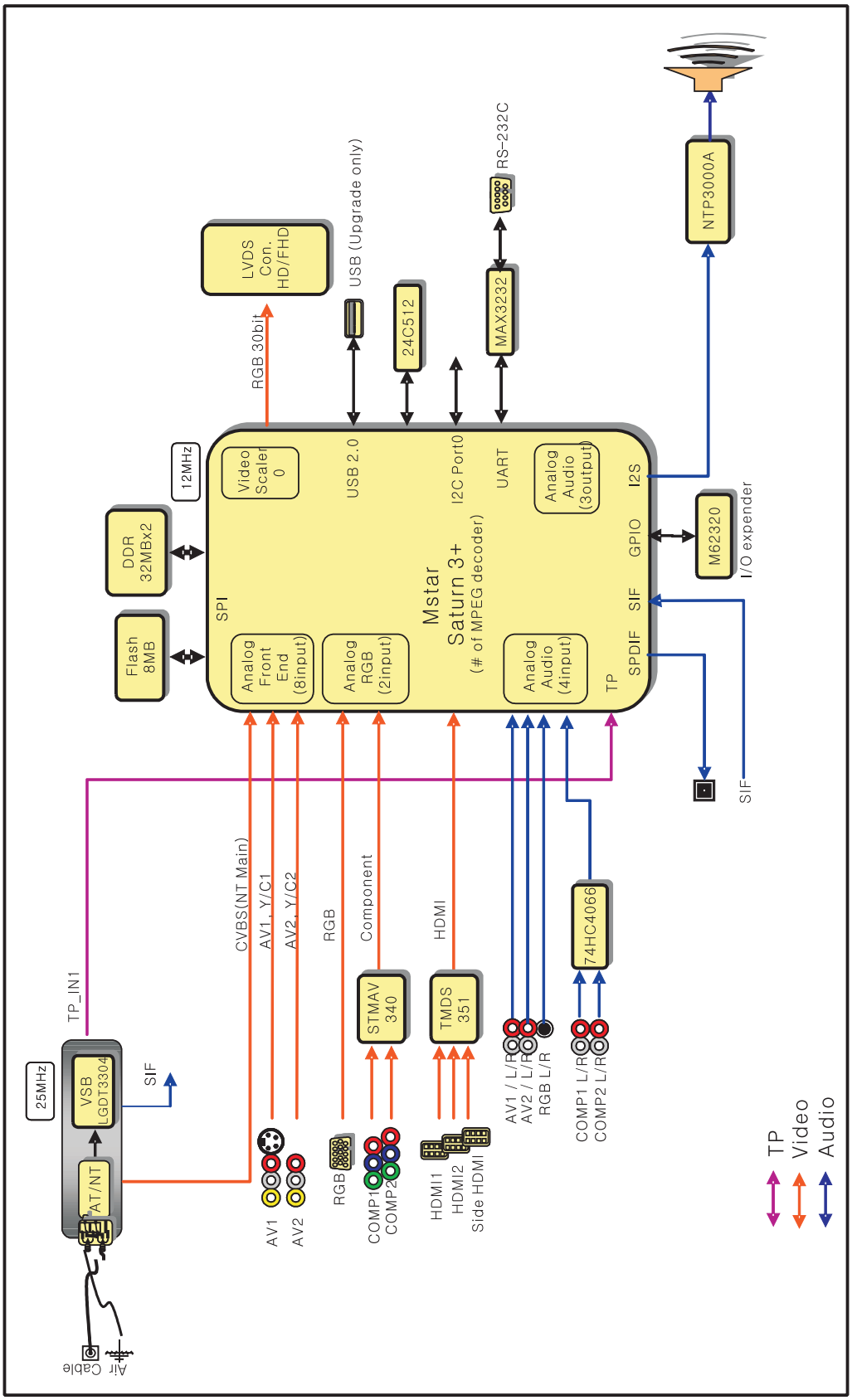
USB Trouble Shooting



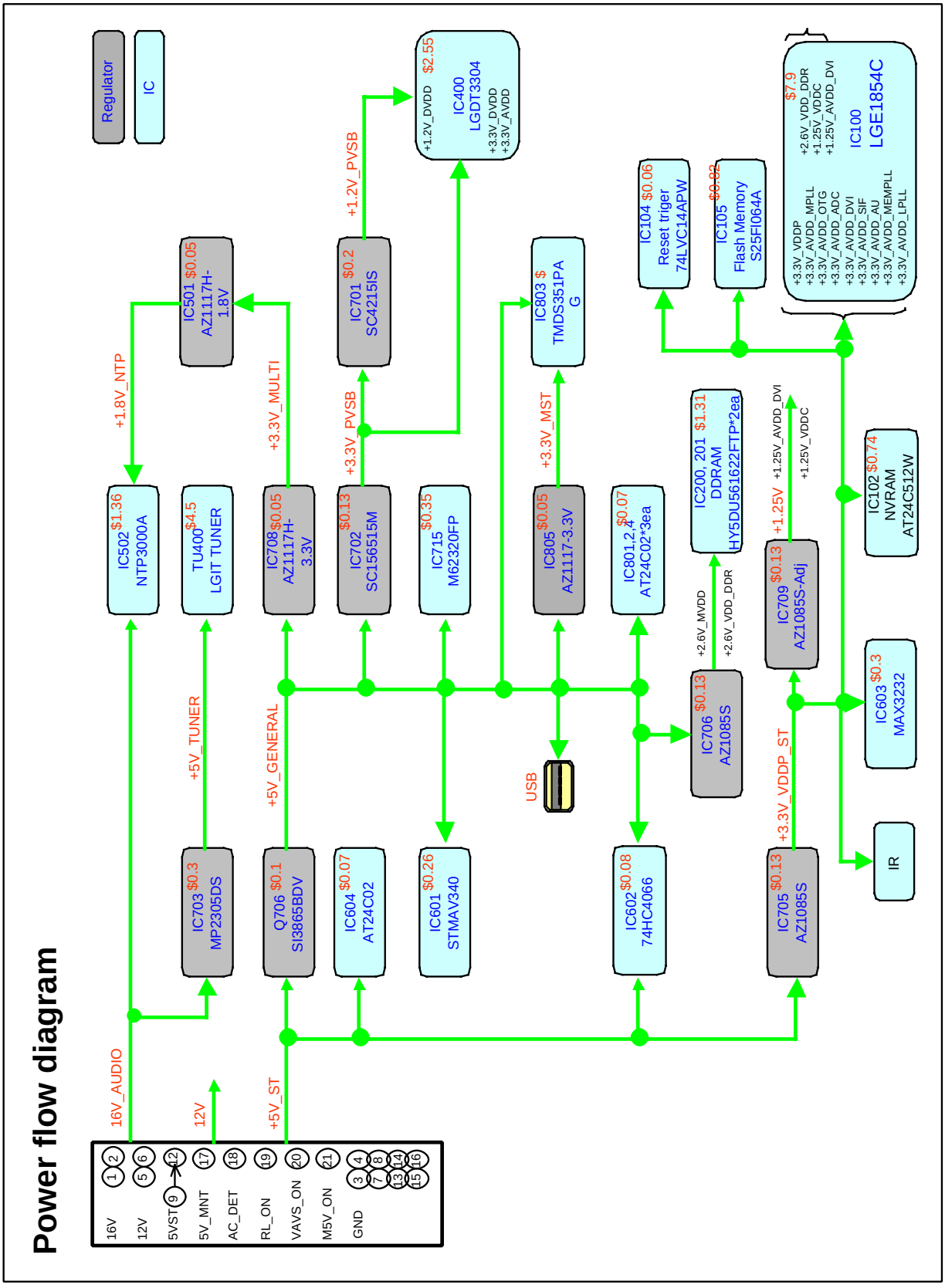
￥Exception

- USB power could be disabled by inrushing current
- In this case, remove the device and try to reboot the TV (AC power off/on)

BLOCK DIAGRAM



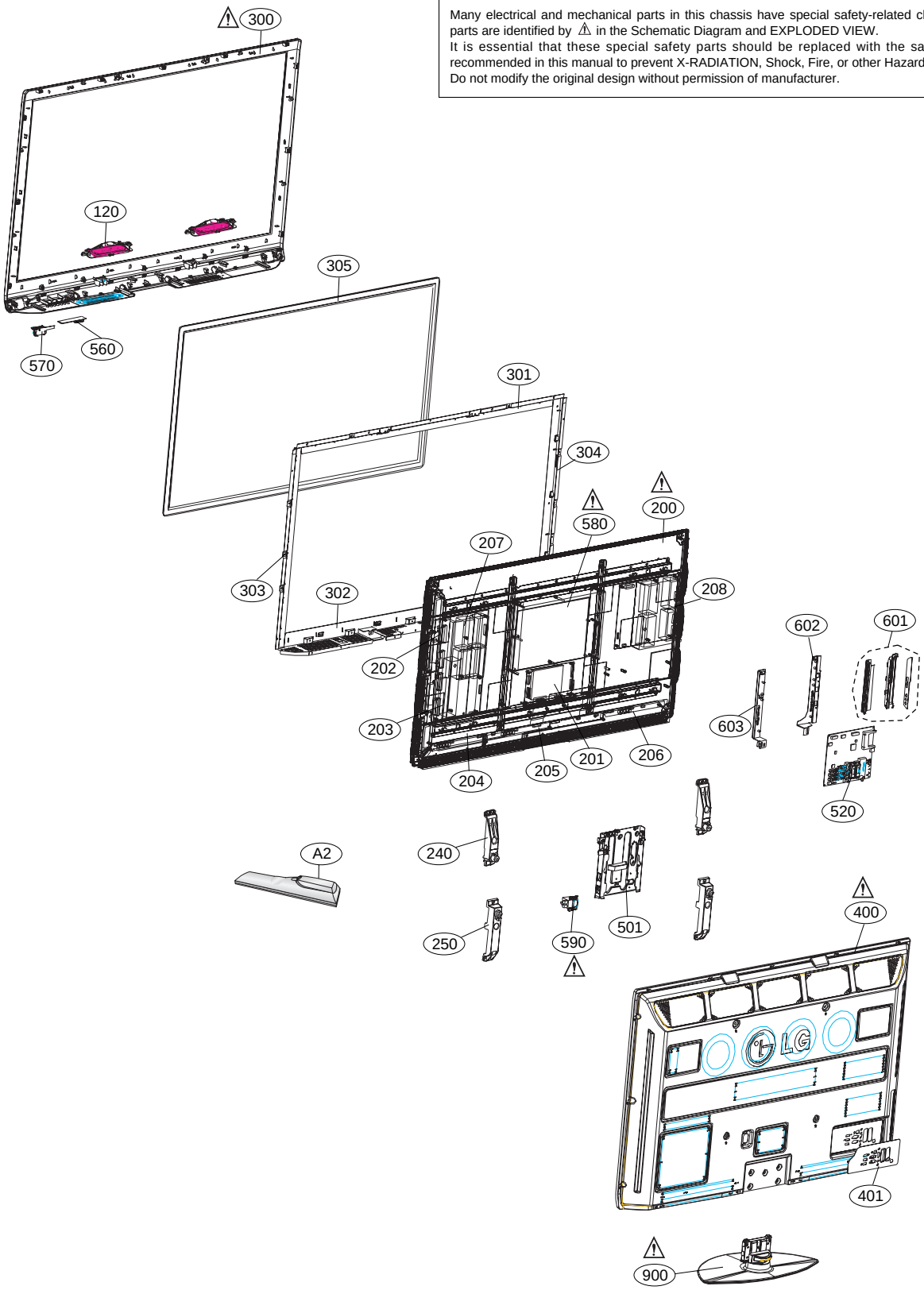
BLOCK DIAGRAM



EXPLODED VIEW

IMPORTANT SAFETY NOTICE

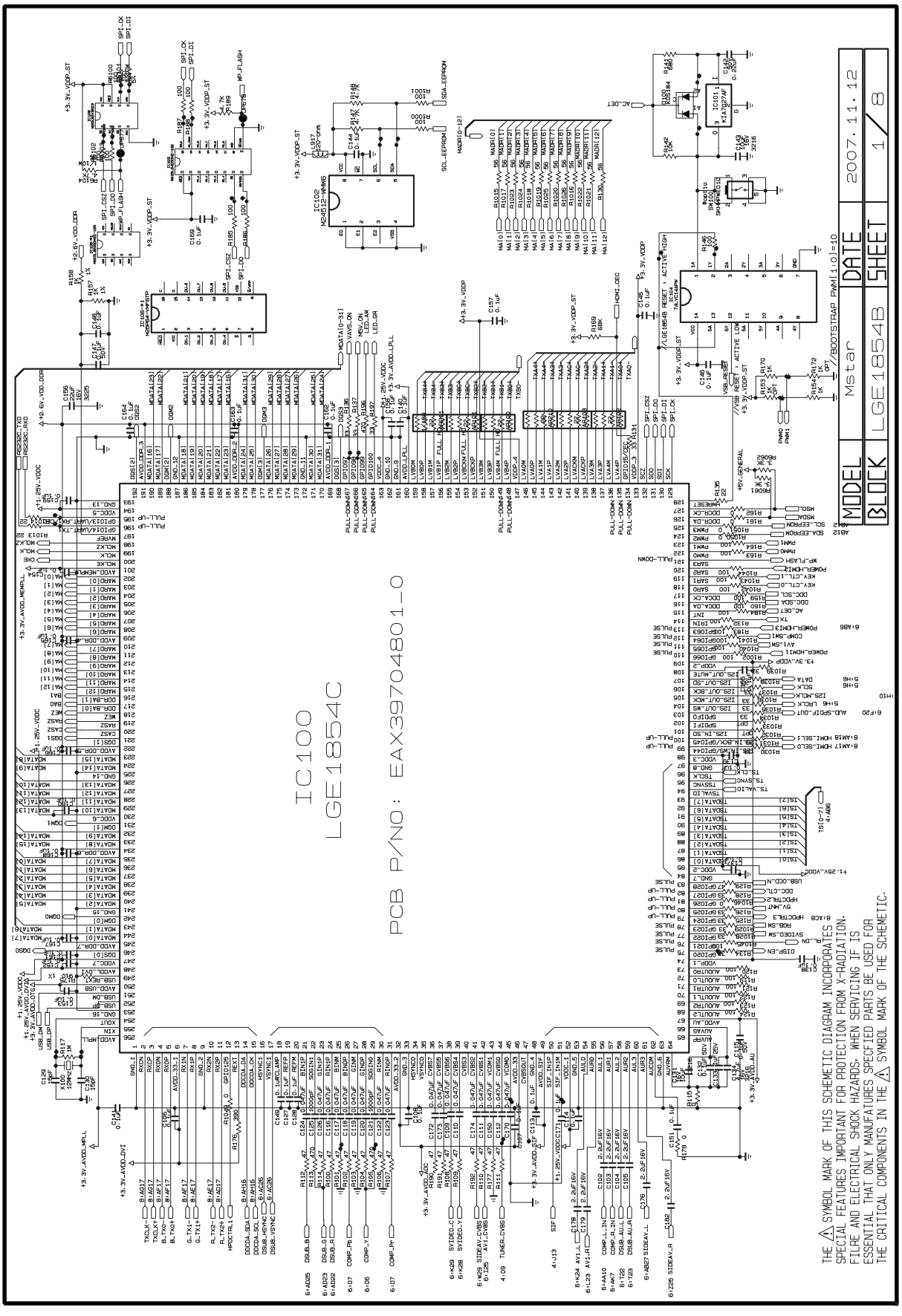
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and EXPLODED VIEW.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.



EXPLODED VIEW PARTS LIST

The components identified by mark ⚠ is critical for safety.
Replace only with part number specified.

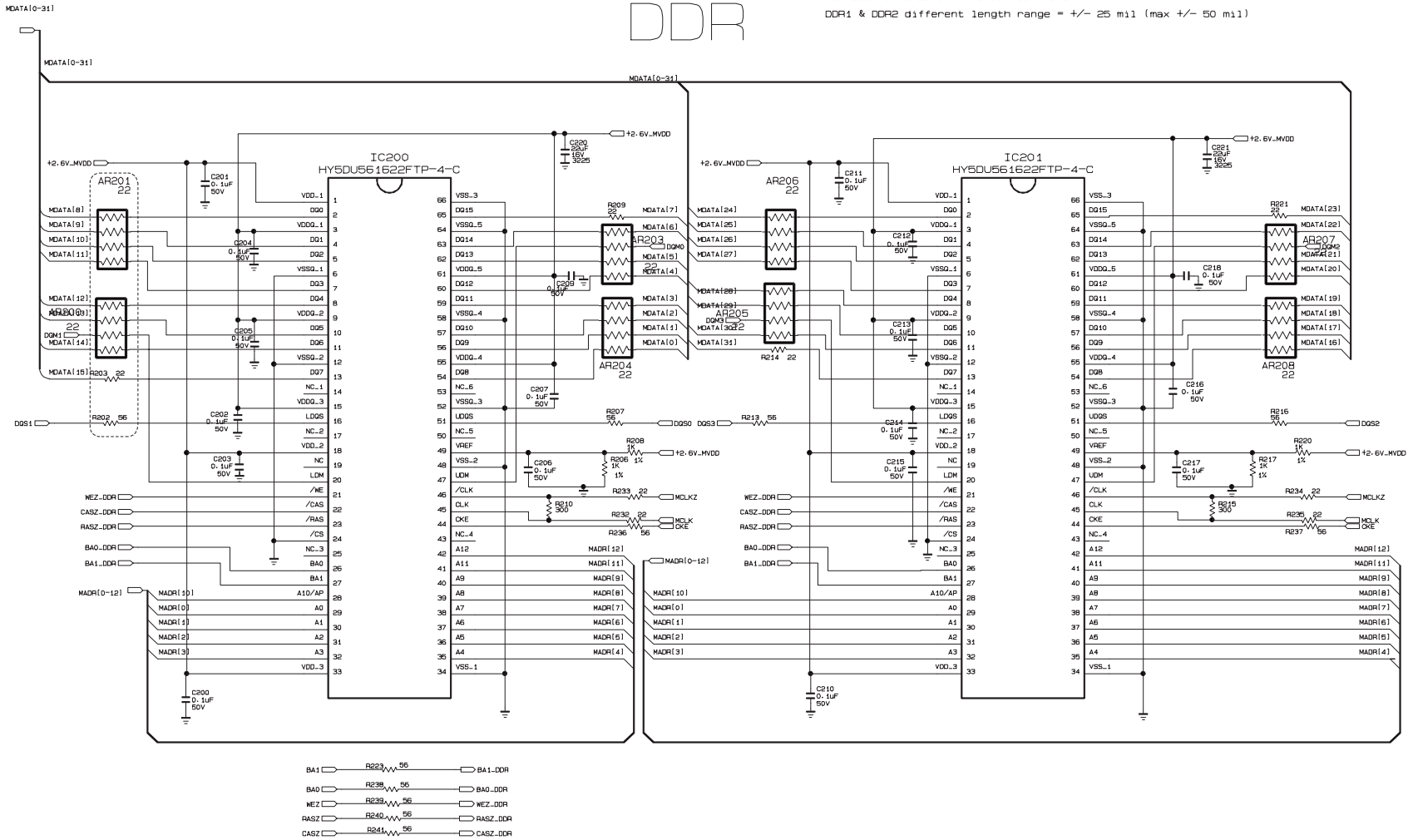
No.	Part No.	Descriptions
⚠ 120	EAB42609901	Speaker,Full Range G1640501 FERRITE 10W 8OHM 82DB 100HZ 150X40 TRACK LUG EMSONIC
⚠ 200	EAJ40004706	PDP,Module-FullHD PDP50H20000.ADLGB FULLHD 50INCH 1920X1080 16/9 PDP Module AU
201	EBR41731901	PCB Assembly,CTRL ASS'Y 50 H2 Single Scan FullHD CTRL ASS'Y
202	EBR41736101	PCB Assembly,YDRV ASS'Y 50 H2 EVEN-ODD CIRCUIT Y DRIVE TOP B/D ASS'Y
203	EBR41736401	PCB Assembly,YDRV ASS'Y 50 H2 EVEN-ODD CIRCUIT Y DRIVE BOTTOM B/D ASS'Y
204	EBR43432201	PCB Assembly,XRLB ASSY 50 H2 XL B/D
205	EBR43432501	PCB Assembly,XRCB ASSY 50 H2
206	EBR43432401	PCB Assembly,XRRB ASSY 50 H2
207	EBR41728701	PCB Assembly,YSUS ASS'Y 50 H2 even_odd
208	EBR41733201	PCB Assembly,ZSUS ASS'Y 50 H2
240	AJJ35707506	Supporter Assembly,50PG3 SUPPORTER VERTICAL TOP, C/SKD
250	AJJ35707606	Supporter Assembly,50PG3 SUPPORETR VERTICAL BOTTOM, C/SKD
⚠ 300	ABJ34782921	Cabinet Assembly,50PG30F(HFD)-UA PU84C 50 LGERS CABINET PH ASSY ABJ34782911
301	AJJ34783007	Supporter Assembly,50PG30 FHD Supp. Filter Top Assy C/SKD
302	AJJ34783107	Supporter Assembly,50PG30 FHD Supp. Filter Bottom Assy C/SKD
303	AJJ34783307	Supporter Assembly,50PG30 FHD Supp. Filter Right Assy C/SKD
304	AJJ34783407	Supporter Assembly,50PG30 FHD Supp. Filter Left Assy C/SKD
305	MDJ42351002	Filter,CUTTING ACRYL GLASS FILTER PDP 50 SKC NORMAL (MESH)
306	ABA36825001	Bracket Assembly,WOOFER PDP - 42 50 60 WOOFER SPEAKER BRACKET ASSY
⚠ 400	ACQ34783521	Cover Assembly,Rear 50PG30F(HFD)-UA PB82C 50 LGERS LOCAL B/C PH ASSY ATSC, M-STAR
401	MCK42608603	Cover,Rear PRESS PCM 0.5t 50PG3 SECD(EGI) 50PG30 B/COVER RS 3th CORE TYPEC:ATSC M-STAR
501	MJH40272502	Supporter,PRESS EGI 1.6 GUIDE EGI 50PG6 Supp module guide,SKD
520	EBR51295201	PCB Assembly,Main MAIN M.I PU84C 50PG30F-UA - Menual Insert PCB Assembly
560	EBR51294601	PCB Assembly,Sub SUB M.I PU84C PG30F-UA SKD LOCAL KEY
570	EBR43329401	PCB Assembly,Sub SUB M.I PU84A 42/50PG20 N. AMERICA PREAMP -
⚠ 580	EAY43521401	SMPS,AC/DC EAY4141 100VTO240V 570W 50~60 UL60950,UL60065,EN60950, EN600665 50H2 LGIT
⚠ 590	EAM35012718	Filter,AC Line IF2-N10DEW2 1.1mH 250VAC 10A 0.33uF 1000pF (YEONHO)YH396-03 300/230MM
601	ABA35619217	Bracket Assembly,50PG20-UA PD83A MSTAR(HDMI 3, USB SERVICE ONLY, WITHOUT CI SLOT)
602	MGJ41164513	Plate,PRESS SBHG 0.8 AV SBHG-A 50/60 SUPPORTER MAIN CHASSIS COMMON(SIDE A/V) 141.5 FOR
603	MGJ41163807	Plate,PRESS SBHG 0.8 AV SBHG-A PLATE SUPPORTER MAIN CHASSIS CENTER(MIDDLE) 141.5,
⚠ 900	AAN34783809	Base Assembly,STAND 50PG30 - NEW SWIVEL STAND ASSY LGERS LOCAL PH(AAN34783804)
A2	MKJ42519603	Remote Controller,MOLD ABS HF380 PA81A 50PG20-UA ATSC M-STAR



DDR

1 mil = 0.0254 mm
20 mil = 0.508 mm
40 mil = 1.016 mm

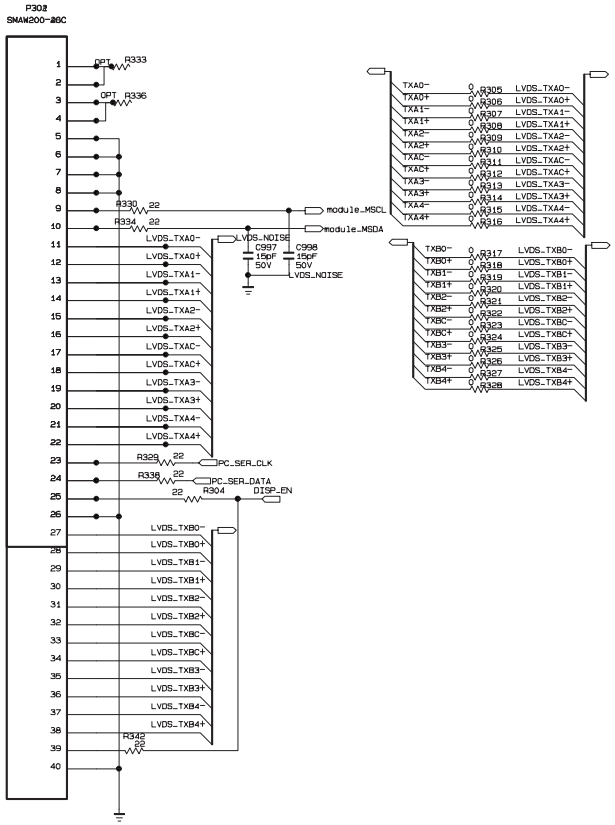
ADDRESS TOTAL LENGTH < 3000 mil (76.2mm)
DDR1 & DDR2 different length range = +/- 25 mil (max +/- 50 mil)

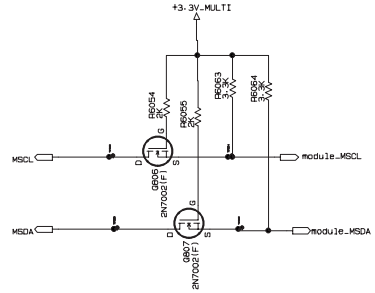


THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

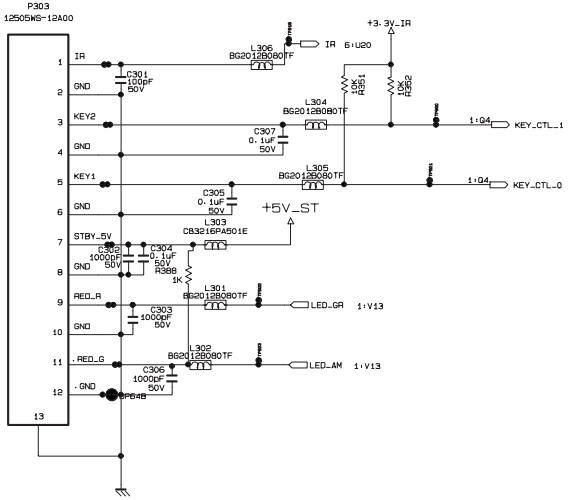
MODEL	Mstar	DATE	2007. 11. 12
BLOCK	DDR	SHEET	2 / 8

PANEL WAFER



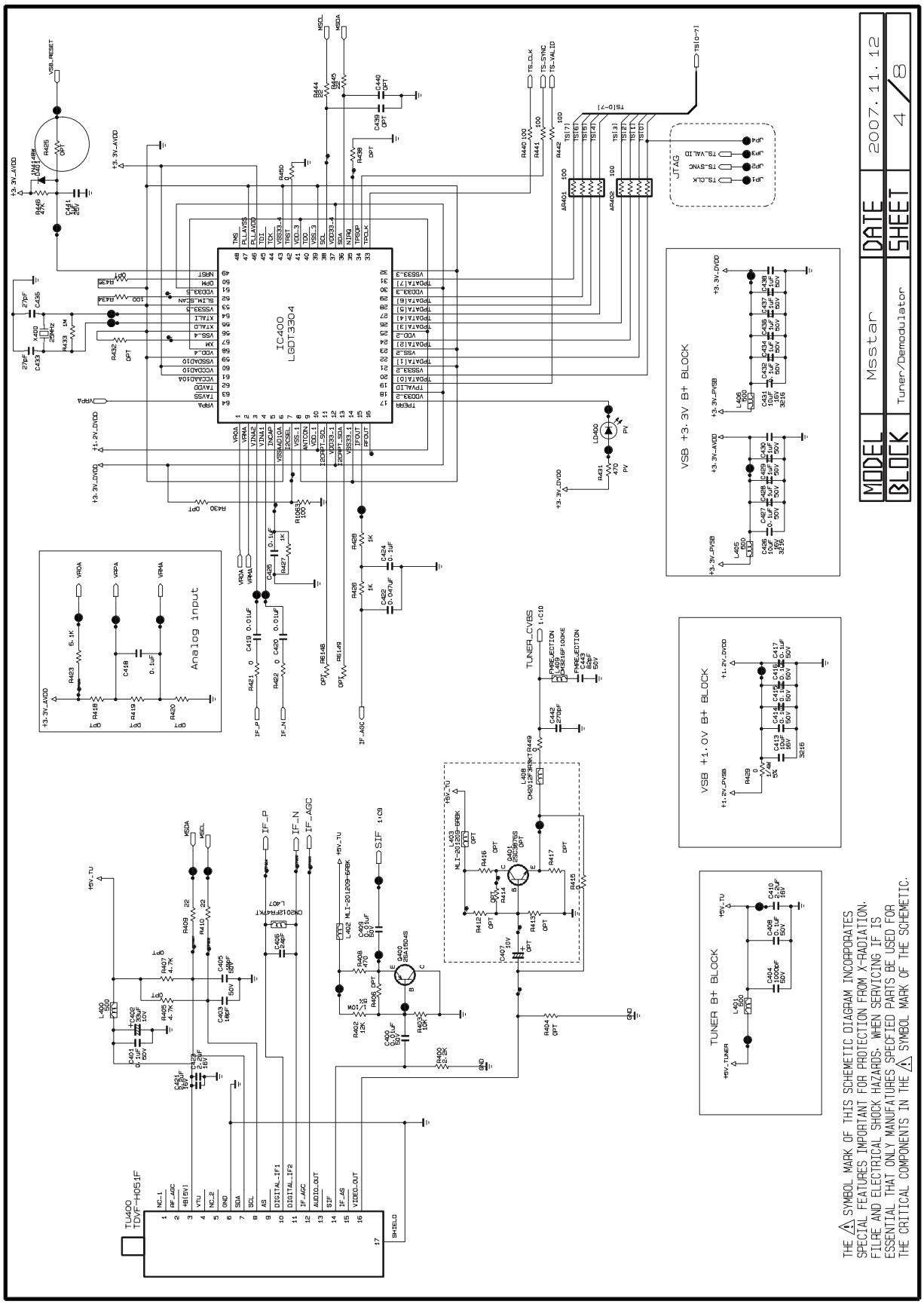


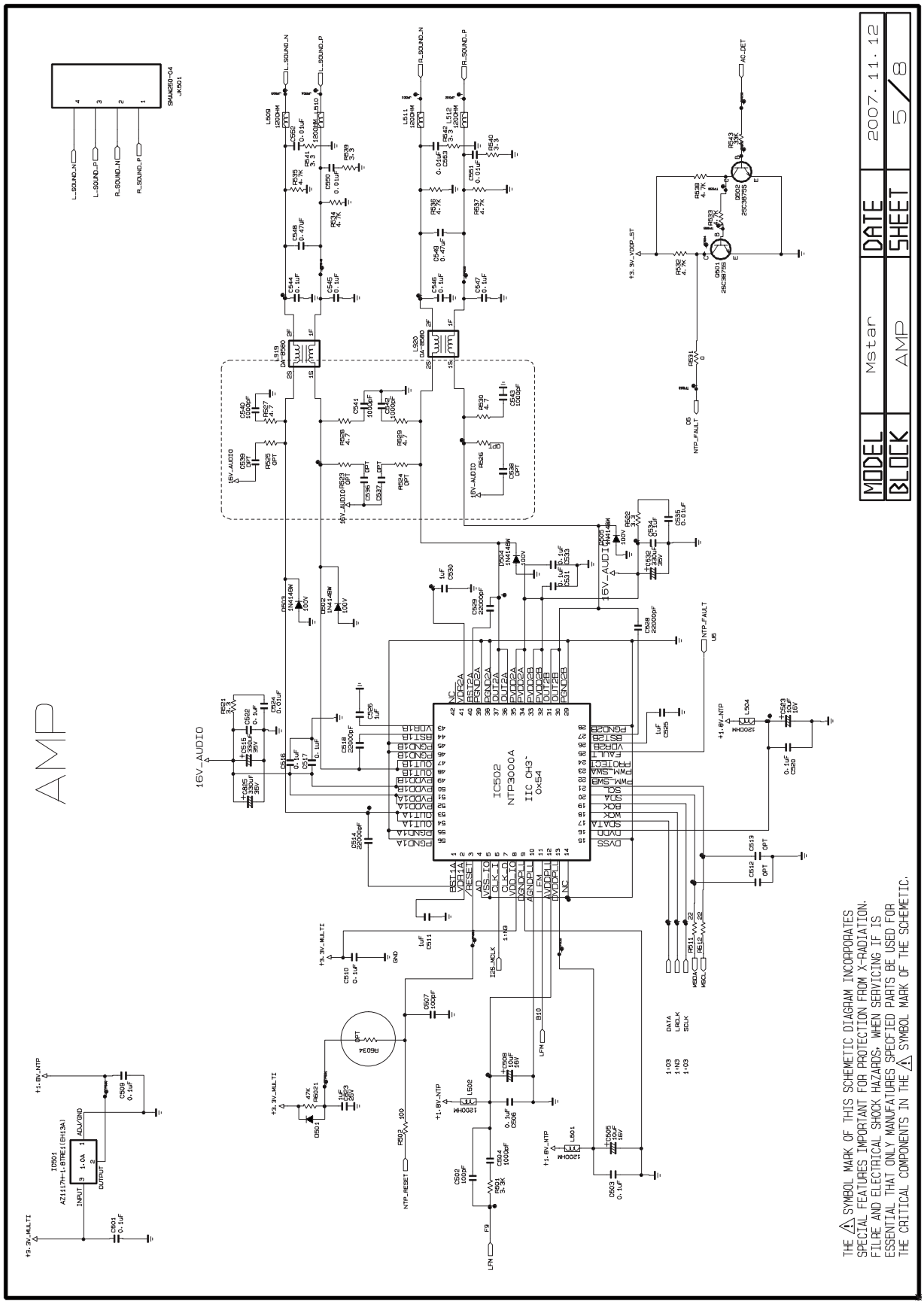
CONTROL KEY

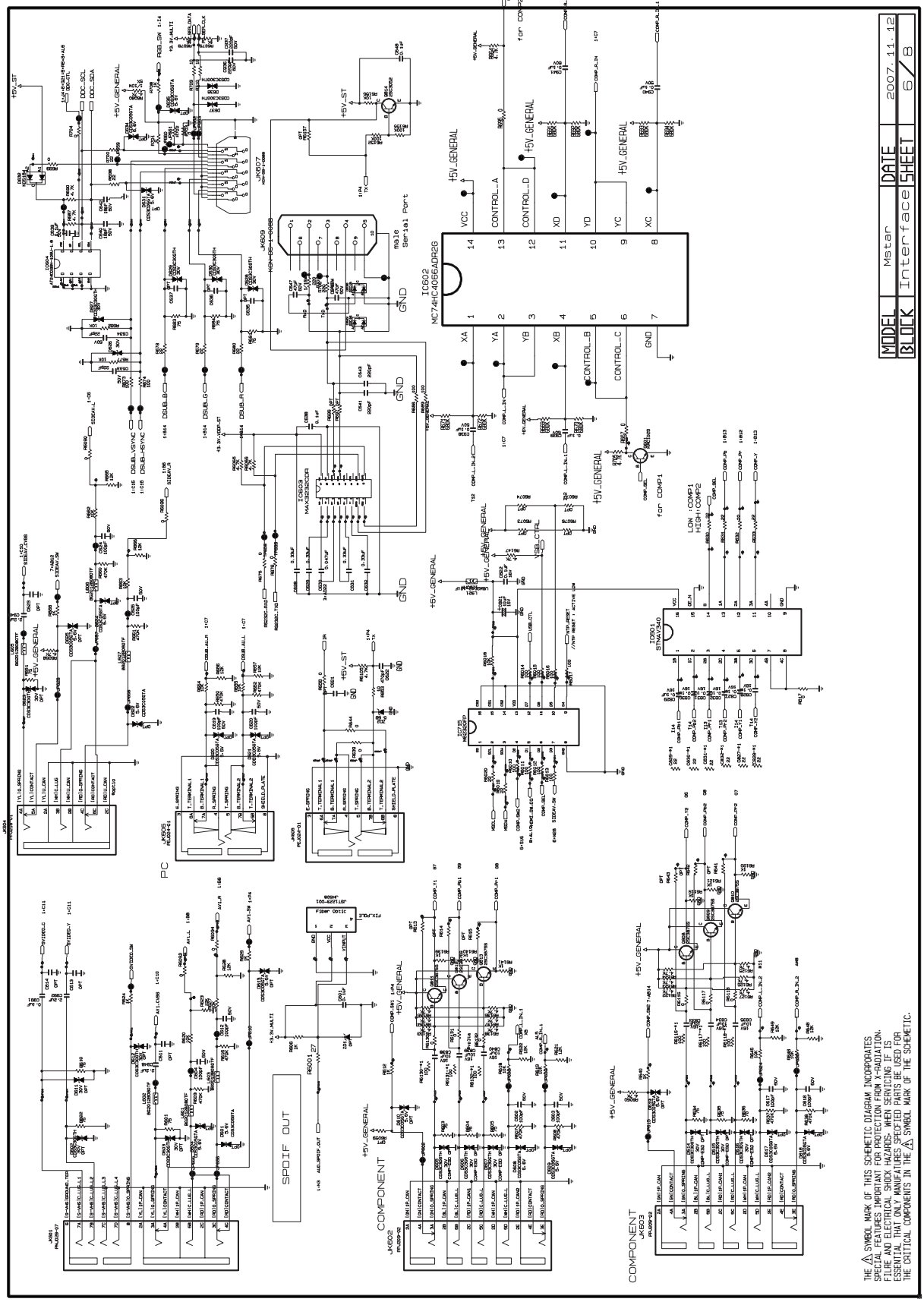


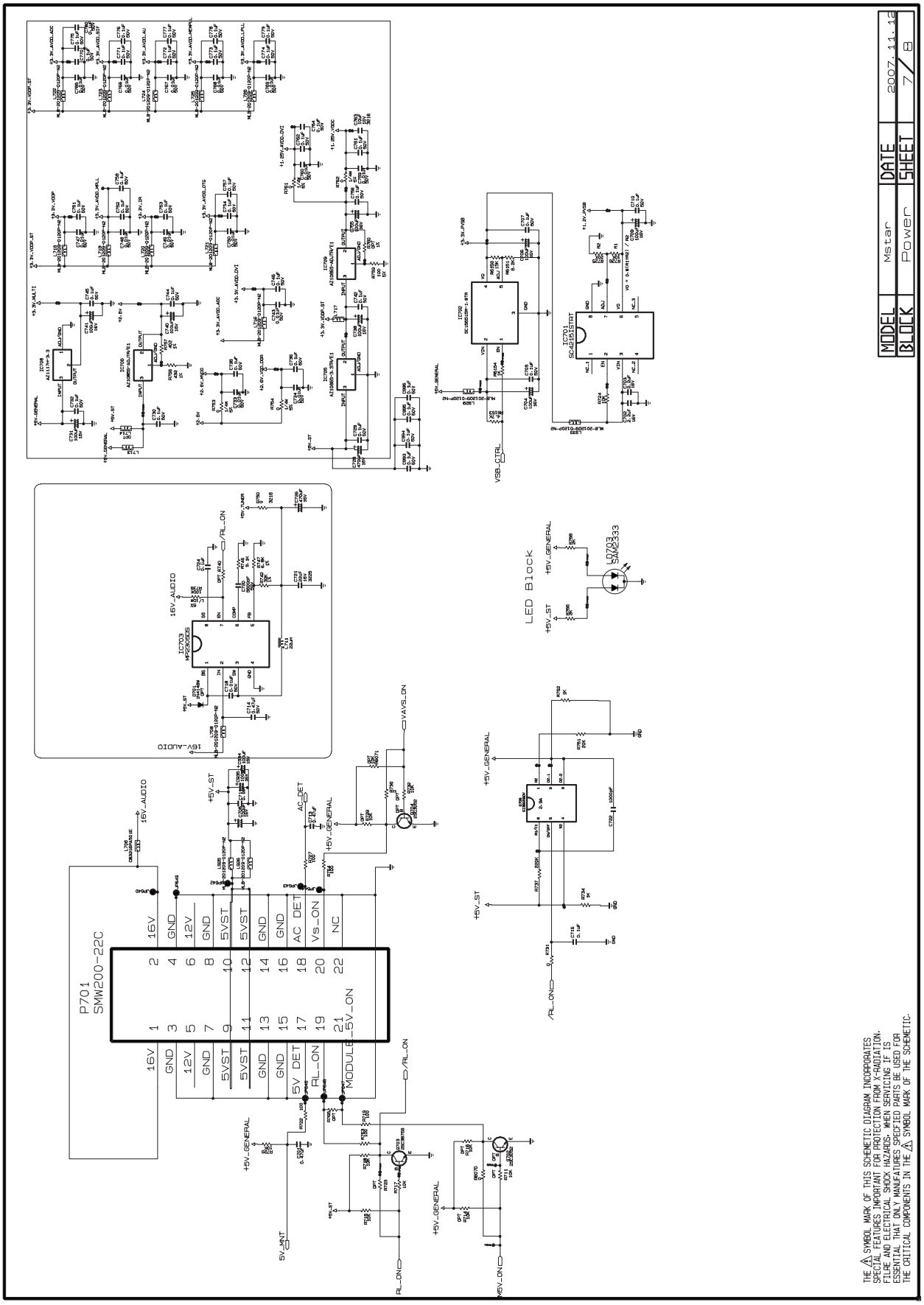
THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FILRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

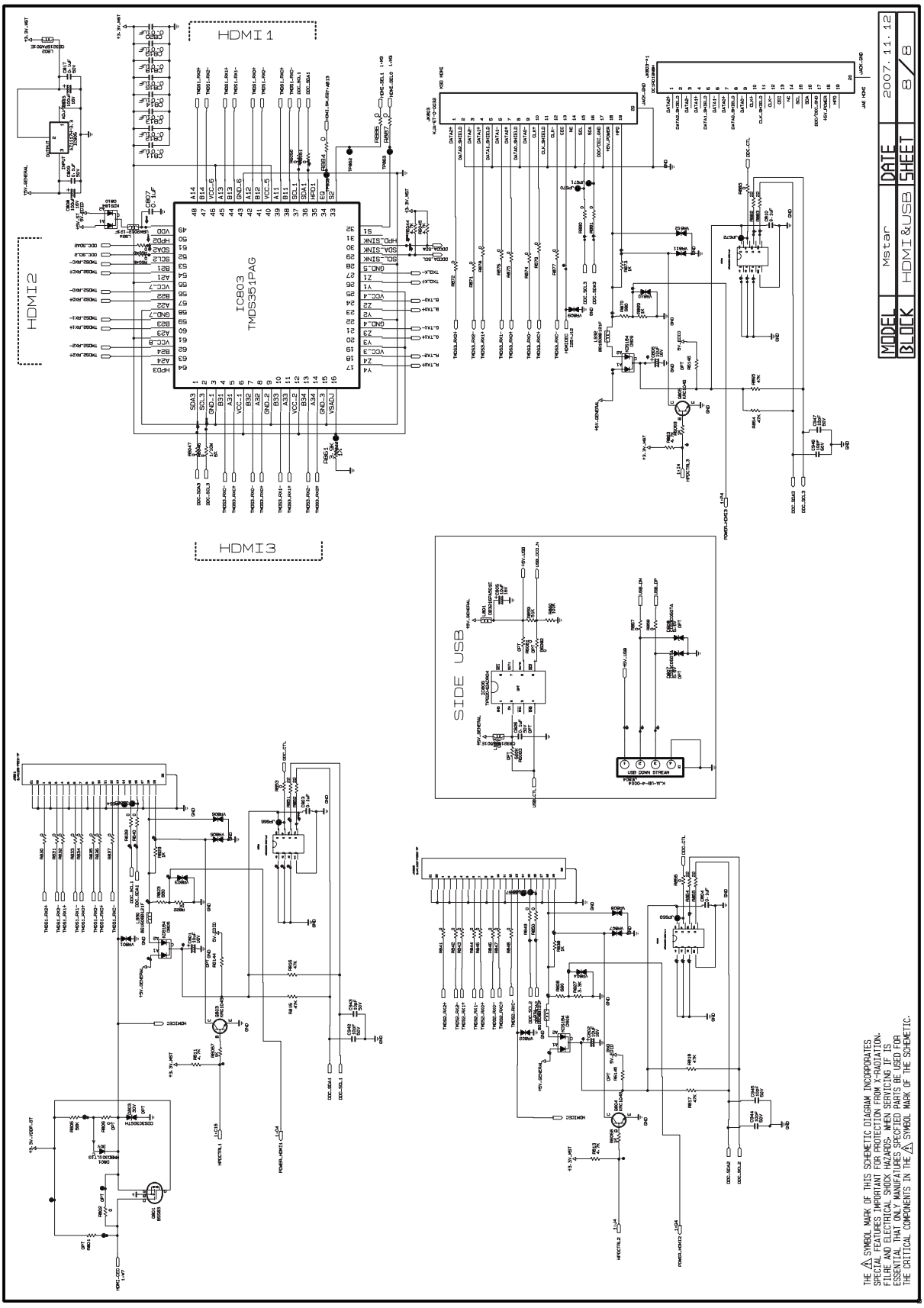
MODEL	Mstar	DATE	2007. 11. 12
BLOCK	LVDS&CTRL	SHEET	3 / 8



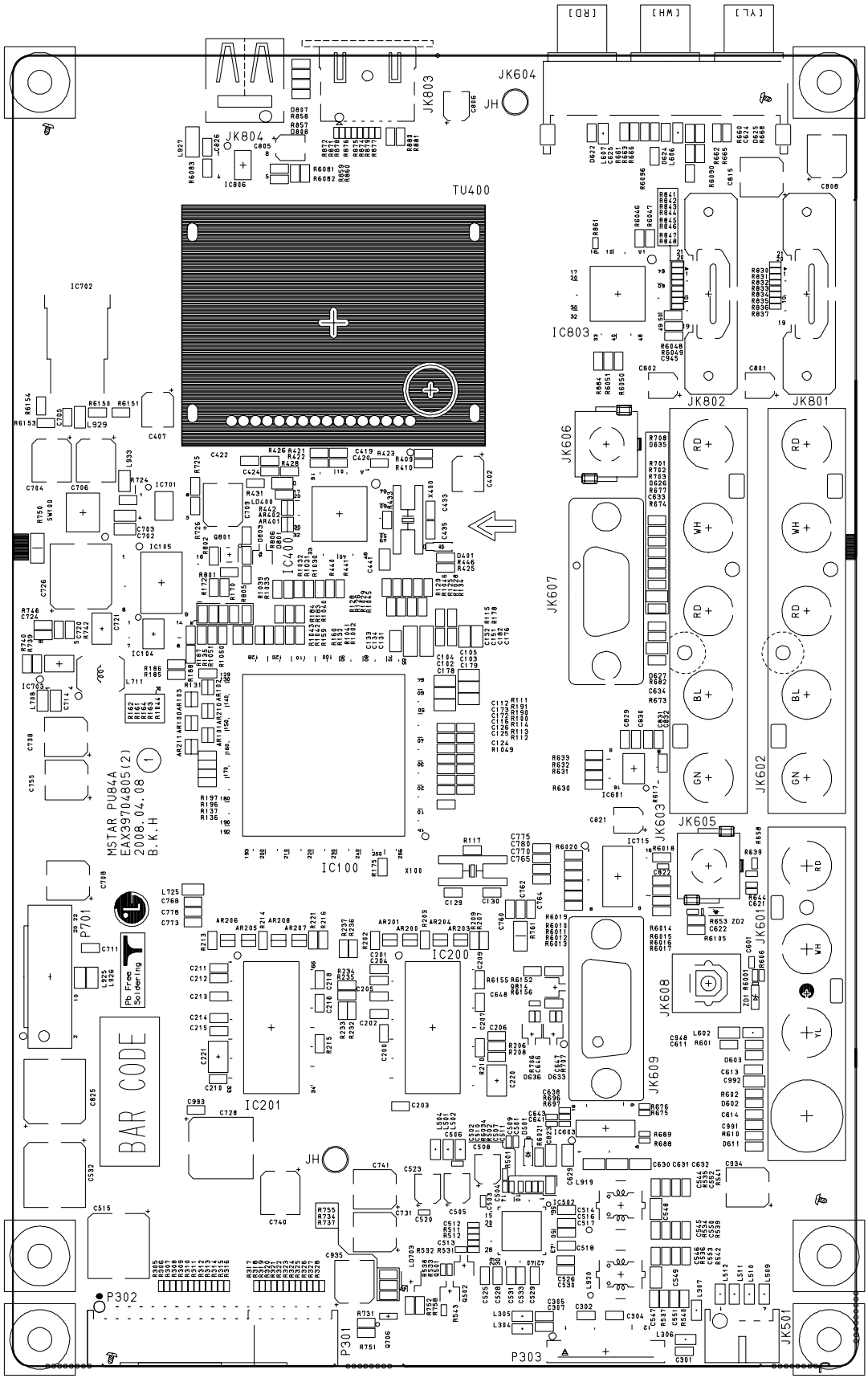








MAIN(TOP)



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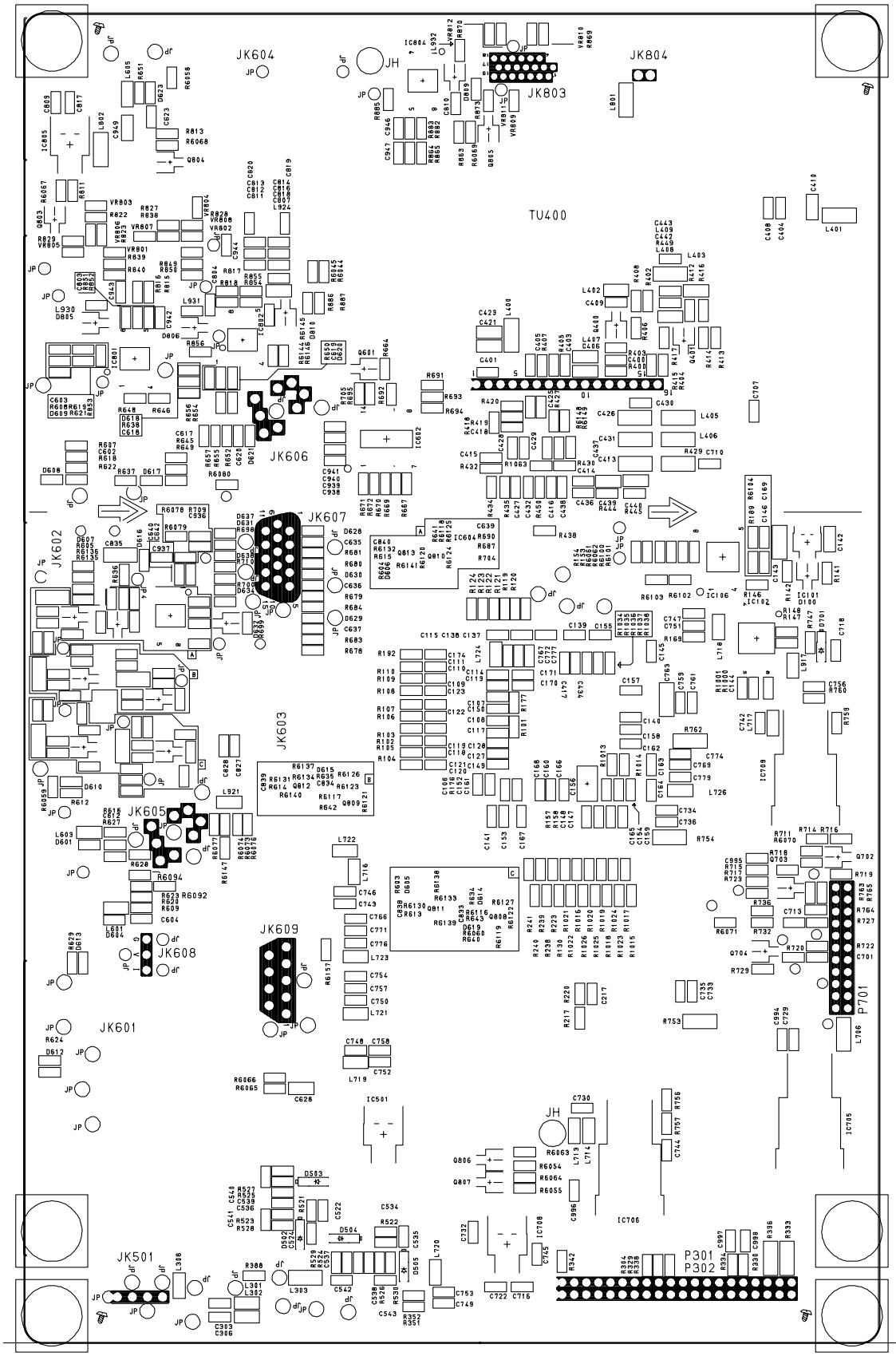

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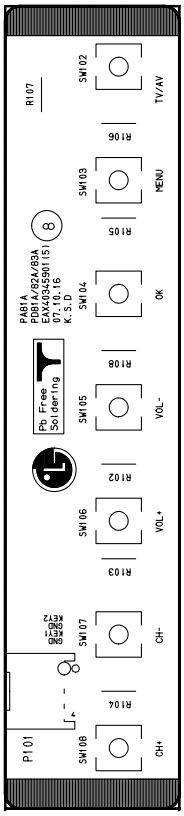

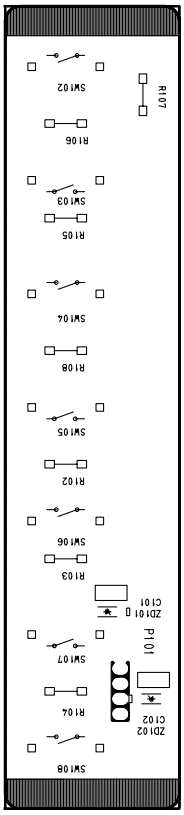

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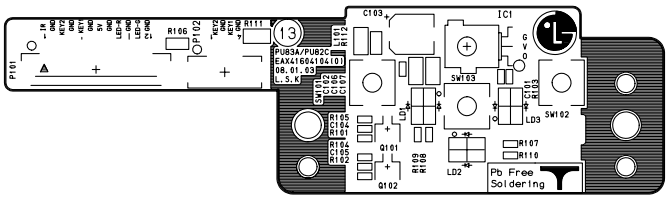

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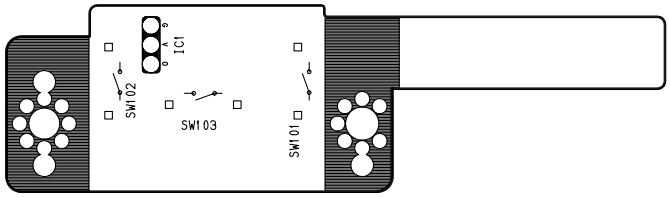

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